THE UNIVERSITY OF ALBERTA

EFFECTIVENESS OF A VOLUNTARY BLOOD PROGRAM

by

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled EFFECTIVENESS OF A VOLUNTARY BLOOD PROGRAM submitted by JANET MARION DAVIDSON in partial fulfillment of the requirements for the degree of Master of HEALTH SERVICES ADMINISTRATION.

Rodney Schneck

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Rhonda Cockerill

Date Dec 5/83

DEDICATION

To my parents for their love and support

ABSTRACT

The purpose of this study was to examine, and where appropriate, compare, perceptions of effectiveness of a voluntary blood program, the Edmonton Centre Blood Transfusion Service of the Canadian Red Cross Society.

Using the goal attainment model, questionnaires were developed and distributed among four stakeholder groups considered central to Blood Centre performance: donors, non-donors, hospitals, and Centre staff. Each of the four questionnaires was designed to obtain opinions on respondents' perceptions of the present effectiveness of the BTS Centre.

Questionnaires were mailed to a random sample of 500 donors and 500 non-donors. The entire populations of 92 hospitals and 81 permanent BTS Centre staff were also included. The response rates for the four groups were: (1) donors = 76.3%, (2) non-donors = 47.3%, (3) hospitals = 84.1%, and (4), Centre staff = 55.6%.

The data from the four questionnaires were factor analyzed and a number of effectiveness dimensions were identified: three for donors, two for non-donors, two for hospitals, and three for BTS staff. Correlation analyses were also performed to establish the relationship between ratings of Centre performance and various demographic and other independent variables thought to contribute to overall assessments of effectiveness. A large number of statistically significant relationships were identified.

Although effectiveness was measured differently among the four groups, for the overwhelming majority of respondents, the Edmonton BTS Centre was perceived to be doing a better than average job of meeting their requirements and expectations. For BTS staff and hospitals however, administrative performance was one area where ratings were significantly lower. Insofar as donors and non-donors were concerned, the results suggested that improvements in donor recruitment techniques could prove worthwhile in the recruitment and retention of new donors.

Support for the multidimensional nature of organizational effectiveness was demonstrated. The study's results reinforced the contention that no single criterion or group of criteria, can serve as universal measures of effectiveness.

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TABLE OF CONTENTS

CHAPTER PAGE

I. INTRODUCTION 1

The Need for this Study 1

The Canadian Red Cross Blood Program 1

Organization and Administration 1

Financial Arrangements 4

The Edmonton Blood Program 5

Statement of the Problem 6

Overview of the Study 8

Limitations of this Study 9

Summary 9

II. REVIEW OF PERTINENT LITERATURE 12

Introduction 12

Organizational Effectiveness 12

Goal Model 13

Process Model 15

System-Resource Model 15

Problems and Issues 17

Human Service Organizations 19

Important Considerations for Human Service Organizations 20

Organizational Goals 20

The Organization and its Environment 23

Technology 24

Professionals in Human Service Organizations . . . 25

CHAPTER PAGE

Studies of Industrial Organizations 26

Studies of Human Service Organizations 32

Studies of Blood Transfusion Services 47

Summary 50

III. METHODOLOGY 53

Introduction 53

The Sample 53

Blood Donors 54

Non-Donors 55

Hospital Blood Banks 55

The Edmonton Centre 56

Development of Survey Instruments 56

Donor and Non-Donor Questionnaires 57

Hospital Questionnaire 59

BTS Staff Questionnaire 60

Reliability and Validity 60

Reliability 60

Validity 61

Statistical Analyses 62

IV. RESULTS AND INTERPRETATION 63

Introduction 63

Donors 65

General Characteristics 65

Reliability and Validity 65

BTS Effectiveness 67

CHAPTER PAGE

Donor Motivation 75

Non-Donors 77

General Characteristics 77

Reliability and Validity 77

BTS Effectiveness 78

Non-Donor Motivation 79

Hospital Blood Banks 83

General Characteristics 83

Reliability and Validity 84

BTS Effectiveness 85

BTS Staff 96

General Characteristics 96

Reliability and Validity 98

BTS Effectiveness 99

Group Comparisons 110

Donors and Non-Donors 110

Donors and BTS Staff 112

BTS Staff and Hospitals 113

Summary 115

V. DISCUSSION AND RECOMMENDATIONS 116

Introduction 116

BTS Effectiveness 116

Implications for Organization Effectiveness Theory . . . 121

***

PAGE

TABLES 125

REFERENCE NOTES 157

REFERENCES 158

APPENDIX 1. CANADIAN RED CROSS ORGANIZATIONAL CHARTS 172

APPENDIX 2. DONOR QUESTIONNAIRE 174

APPENDIX 3. NON-DONOR QUESTIONNAIRE 180

APPENDIX 4. HOSPITAL BLOOD BANK QUESTIONNAIRE 184

APPENDIX 5. BTS STAFF QUESTIONNAIRE 194

LIST OF TABLES

Table	Description	Page
1	Contrasting Attributes of HSOs and Business/Industry	21
2	Response Rates for Survey Questionnaires Used in Study of Edmonton Centre BTS Effectiveness	64
3	Donor Ratings of Overall BTS Performance	68
4	Donor Ratings of BTS Staff	70
5	Donor Preferences for Blood Banking Alternatives	72
6	Donor Ratings of Frequency of Exposure to BTS Recruitment Strategies	74
7	Donor Ratings of Reasons for Giving Blood	76
8	Non-Donor Ratings of Frequency of Exposure to BTS Recruitment Strategies	80
9	Non-Donor Ratings of Reasons for Not Giving Blood	81
10	Hospital Ratings of BTS Centre Performance	86
11	Hospital Ratings of BTS Centre Effectiveness	88
12	Pearson Correlation Coefficients Between Performance and Effectiveness Variables: Hospitals	89
13	Hospital Ratings of Product Availability	91
14	Hospital Ratings of BTS Staff	93
15	Hospital Preferences for Blood Banking Alternatives	95
16	Hospital Preferences for Regionalization Options	97
17	BTS Staff Ratings of BTS Centre Performance	100
18	Pearson Correlation Coefficients Between Performance Variables: Ratings by BTS STaff	102
19	BTS Staff Ratings: Donor-Staff Relationships	107
20	BTS Staff Ratings: Hospital-Staff Relationships	108
21	BTS Staff Ratings: Effectiveness of Donor Recruitment Strategies	109

Table	Description	Page
A	Demographic Characteristics of Donor Respondents	126
B	Varimax Factor Solution: Donor Perceptions of BTS Centre Effectiveness	127
C	Pearson Correlation Coefficients for Relationships Between Demographic and Dependent Variables: Donors	129
D	Pearson Correlation Coefficients for Relationships Between Donor Ratings of Overall BTS Performance and Dependent Variables	131
E	Demographic Characteristics of Non-Donor Respondents	133
F	Varimax Factor Solution: Non-Donor Perceptions of BTS Centre Effectiveness	134
G	Pearson Correlation Coefficients for Relationships Between Demographic and Dependent Variables: Non-Donors	135
H	Demographic Characteristics of Hospital Respondents	136
I	Number of Patients and Units of Products Transfused in 1980 by Hospital Respondents	138
J	Varimax Factor Solution: Hospital Perceptions of BTS Centre Effectiveness	139
K	Pearson Correlation Coefficients for Relationships Between Hospital Ratings of BTS Performance/Effectiveness and Independent and Dependent Variables	141
L	Demographic Characteristics of Staff Respondents	144
M	Varimax Factor Solution: Staff Perceptions of BTS Centre Effectiveness	145
N	Pearson Correlation Coefficients for Relationships Between Selected Demographic and Dependent Variables: BTS Staff	148
O	Pearson Correlation Coefficients for Relationships Between Staff Ratings of BTS Performance and Dependent Variables	151
P	Pearson Correlation Coefficients for Relationships Between Selected Dependent Variables and Type of Respondent: Donors and Non-Donors	154

Table	Description	Page
Q	Pearson Correlation Coefficients for Relationships Between Selected Dependent Variables and Type of Respondent: BTS Staff and Donors	155
R	Pearson Correlation Coefficients for Relationships Between Selected Dependent Variables and Type of Respondent: BTS Staff and Hospitals	156

LIST OF FIGURES

Figure		Page
1.	The Organizational Set for a BTS Centre	10
2.	Canadian Red Cross Society Organizational Charts	173

CHAPTER I

INTRODUCTION

The Need For This Study

Organizations must engage in an ongoing process of assessing their overall performance, as well as that of each of their components, if they are to gauge with any degree of accuracy the success of their efforts (Hasenfeld & English, 1974). Nowhere is this more important than in the public service sector where human service organizations are constantly under pressure from governments and other agencies, as well as the public at large, to provide substantive evidence of quality performance (Aldrich, 1978; Cooper & Reidenbach, 1981: Jobsen & Schneck, 1980; Shortell & Richardson, 1978). Drucker (1973,1977) points out that service organizations compose one of the real growth sectors in modern society with significant amounts of public monies being used to support such activities. As a result, they are finding themselves under increasing public scrutiny with numerous demands for evaluation. Where the activities of public agencies were once accepted with no questions asked, such is no longer the case.

The focus of this study is the Canadian Red Cross Blood Program. It will be useful to describe the context in which the program operates as well as the structure of the organization itself.

The Canadian Red Cross Blood Program

Organization and Administration

The structure of the Canadian Red Cross Society is complex and, for the most part, can be compared to the federal/provincial/municipal framework of government operations. The Society is divided into 10 relatively autonomous provincial units (Divisions) which are further subdivided into over 800 smaller autonomous units called Branches (see Appendix 1). The National Office functions primarily as a coordinating body and one responsible for national program development while the Divisions and Branches are responsible for program implementation and administration. The goals of the Society and its programs are established by volunteers who comprise the membership of all policy-making bodies in the organization while the staff serve in only administrative and advisory capacities.

The Blood Program is divided into two distinct components. The Blood Transfusion Service (BTS) was established during the early 1940's with the principal objective of providing dried plasma for distribution and use overseas (Miller, 1968). After the war, the federal and provincial governments requested the Society to establish a permanent transfusion service throughout the country and this program was duly inaugurated in January, 1947. The Edmonton BTS was established in the latter part of that year. The BTS however, did not attain a truly national status until the passing of the Hospital Insurance and Diagnostic Services Act of 1958, at which time it became the sole supplier of blood in Canada (Miller, 1968; Perrault, 1979). The principal objective of the BTS is to provide blood and blood products free of charge to all Canadian hospitals (Perrault, 1979). In recent years however, it has also recognized secondary objectives of research and education. The present program has over 1000 employees in 17 Centres across Canada who are involved in the collection, processing, and distribution of over one million units of blood annually (Canadian

Red Cross Society Blood Transfusion Service, 1978; Perrault, 1979). It is currently the largest of the Society's programs and accounts for over one half of all its expenditures (Canadian Red Cross Society, 1982a).

The Divisions and Branches are not directly involved in the administration of the BTS. The National Office of the BTS is responsible for the establishment and maintenance of technical standards in the 17 Centres throughout the country, and is composed of a National Director, administrative staff and the National Reference Laboratory. Each Centre is headed by a Medical Director who is responsible to the National Director (Canadian Red Cross Society, 1977). This situation is quite unique in the world because of its truly national structure. In most other countries, the regional Centres are much more autonomous (Perrault, Note 1).

The Blood Donor Recruitment program (herinafter referred to as BDR), is responsible for donor procurement in sufficient quantities to meet the requirements of the BTS and is implemented and administered through the Divisions and Branches (Canadian Red Cross Society, 1977). The National BDR Department is responsible for coordinating donor recruitment activities throughout the country and assisting local BDR staff and volunteers as appropriate. It consists of a National Coordinator and various support staff. Each Division has a BDR Director who works with the BTS Centres but who is responsible to the Divisional Commissioner.

The Blood Program of the Canadian Red Cross Society is voluntary and non-profit in nature. Donors are recruited on a volunteer basis with no reimbursement. At the same time, blood and blood products are made available free of charge to the users, namely hospitals and patients, throughout the country. Free of charge, however, does not mean free of cost. The entire Blood Program cost the Canadian taxpayer approximately 70 million dollars in 1981 (Canadian Red Cross Society, 1982a). In addition, fractionation products are billed to the provinces separately at cost plus an administrative charge (Perrault, Note 1). This system has been in effect since the Society commenced issuing fractionation products and has been based on the principle that no user be charged directly for the products (Inter-Provincial Ad Hoc Committee on Plasma Fractionation, 1980)

Financial Arrangements

The Society financed the Blood Program through public fund-raising campaigns until 1959 when costs became prohibitive. At that time, governments began subsidizing the technical side of the service at a rate of 30%. By 1973, the BTS budget was subsidized 90% by governments (federal/provincial cost-sharing arrangement) while the BDR budget was subsidized at a rate of 30%. The Canadian Red Cross Society raised the remaining funds through its regular appeals. In 1973 however, the BTS budget was in the range of two and one half million dollars. Thus, the financial burden placed upon the Society was considerable.

In 1974, the Conference of Deputy Ministers of Health agreed to a Red Cross proposal which called for a 100% subsidization of the BTS and a subsidization rate for BDR of 40% for 1974, 60% for 1975, and 80% for 1976 onwards (Perrault, Note 1). Until 1977, these funds were equally divided between the Federal and Provincial governments with the exception of capital financing which was, and continues to be, a responsibility of the Provincial Departments of Health. With the advent of block funding however, the formula changed somewhat although the principle of 100% support for the BTS and 80% support for BDR was still maintained.

In 1981, the BTS budget was approximately 64.1 million dollars while the budget for BDR was in the range of 6.7 million dollars (Canadian Red Cross Society, 1982a, 1982b).

The budget process is a relatively complicated one. The 17 Centres submit annual budgets to the National Office of the BTS where they are assessed and evaluated along with those of the National Office of the BTS and the National Reference Laboratory. A consolidated budget is then prepared for submission to the Federal/Provincial Budget and Programme Review Committee in the fall of each year (Perrault, Note 1). At the same time, the Divisions submit BDR budget proposals to the National Budget Committee in June of each year. Subsequent to any changes or amendments, a consolidated BDR budget is prepared to accompany the BTS budget submission.

The Edmonton Blood Program

The Edmonton BTS, with a service population of approximately one million people, is composed of a Medical Director and 81 full time and part-time staff and is responsible for the collection, processing and distribution of blood and blood products to some 92 hospitals in Alberta, British Columbia, Northwest Territories and Saskatchewan. Approximately 56,000 donor units were collected and processed in 1981 at a cost of 2.65 million dollars (Canadian Red Cross Society, 1982b; Canadian Red Cross Society Alberta-Northwest Territories Division, 1982; Canadian Red Cross Blood Transfusion Service, 1982). This figure does not include recruitment costs or monies allocated to the National

Office for support of the National Reference Laboratory. For 1981, these additional costs were approximately one million dollars (Pawlyshyn, Note 2; Turc, Note 3).

The Edmonton BDR program has a full-time Director and 11 staff who are responsible for ensuring an adequate number of donors at all times so as to enable the Edmonton BTS to meet all hospital and patient requirements for blood and blood products. Permanent and mobile blood donor clinics--staffed by BTS nursing personnel and BDR volunteers--are regularly scheduled throughout the area on an ongoing basis from which past and potential donors are recruited. There are approximately 65,000 active donors registered with the Edmonton Blood Program, the majority residing in Edmonton proper. However, a significant number live away from the city--Camrose, Drayton Valley, Red Deer, Vegreville--and donations are received via mobile clinics held in these areas. The 1981 budget for the Edmonton BDR program was about 350,000 dollars (Condran, Note 4).

The entire Edmonton Blood Program cost the Canadian taxpayer about 3.5 million dollars in 1981. Costs are projected to increase to approximately four million dollars by 1983 (Turc, Note 3).

Statement of the Problem

The importance of exploring the issue of organizational effectiveness and its application to the Canadian Red Cross Society Blood Transfusion Service, is best summed up in the words of the Society's Long Range Planning Committee in its 1973 report entitled, And Who Is My Stranger.

> Because of the image, prestige, and service record of the Canadian Red Cross Society, the largest and one of the oldest non-governmental voluntary agencies in Canada, what we do, particularly if we are effective in this exercise, may very will have meaningful implications for other major voluntary organizations in our country. (p. 8)

Hasenfeld and English (1974) in their review of human service organizations, discuss the growing public discontent with these agencies. This protest focuses on issues such as failure to respond to public needs, lack of meaningful evaluation, insensitivity to clients, and generally poor management of resources. The Red Cross BTS in particular, has of late, been the subject of considerable discussion and even some criticism. A number of recent articles (Cooper, 1981; Toronto Star, 1982; Weiner, 1980), have discussed not only the general discontent among blood donors but also, have raised a number of questions regarding the entire future of the Canadian voluntary blood system as it currently exists. "It is by no means the first time that the old and revered charitable institution has been accused of business chicanery and aggressive expansionary intentions" (Weiner, 1980, p. 56). Similar criticisms have also been raised internally and, as Dorolle (1975) points out in his review of the Red Cross health and welfare activities, the almost universal lack of any systematic and meaningful evaluation has made it impossible for Societies to understand their problems and propose appropriate solutions. O'Connell (1976) excuses this behavior stating that voluntary organizations are generally so busy delivering programs and services that there is seldom time or thought given to evaluation. However, the BTS--with an annual expenditure of approximately 64.1 million dollars in 1981 (Canadian Red Cross Society, 1982a)--must become increasingly accountable to the public and governments at all levels. Furthermore, in its continuing search for high quality volunteers and staff, the BTS must be able to demonstrate the effectiveness of its efforts if it wishes to attract and retain such individuals within the organization.

Overview of the Study

Due to constraints of availability and resources, this research was restricted to the study of effectiveness of one Red Cross BTS Centre, Edmonton. With a budget in 1981 of 2.65 million dollars (Canadian Red Cross Society, 1982b), this Centre represented a sizeable operation within the Canadian Red Cross Blood Program.

Given the strengths and limitations of the various approaches to organizational effectiveness, (cf. chap. II, pp. 12-16) this author adopted the goal attainment model to examine the effectiveness of the Edmonton BTS. This particular approach was utilized since organizational effectiveness ultimately rests "on the question of how successful an organization has been in achieving its stated objectives" (Steers, 1977, p. 17). The Red Cross Blood Program has very clear and identifiable publicly mandated goals which serve as the basis for its substantial public support. Furthermore, there is strong agreement among the members of the various stakeholder groups on the precise nature of these goals.

The formal and operative goal of the BTS, including the Edmonton BTS, is that of providing blood and blood products free of charge to Canadian hospitals. The two principles underlying this goal are voluntary donations and national self sufficiency. For the purpose of this study this goal was operationalized from the perspective a number of significant interest groups: blood donors and non-donors, hospital blood banks, and Edmonton BTS staff. Groups, both internal and external to the organization were included, on the basis that:

> A human service organization cannot be the sole judge of its own effectiveness. Because effectiveness criteria reflect the utilities or self-interest of various groups, a multiplicity of internal and external criteria are needed for a more comprehensive evaluation of organizations. (Jobsen & Schneck, 1982, p. 26)

Questionnaires were developed and distributed among these four groups to obtain opinions on respondents' perceptions of the present effectiveness of the Edmonton BTS.

Limitations of This Study

The number of groups which could conceivably be included in such a study are numerous as is demonstrated in Figure 1. However, in view of the limitations of both time and money, it was necessary to exclude some groups from the study. Based upon the author's previous experience with Red Cross and discussions with Edmonton BTS representatives and Faculty advisors, it seemed advisable to include those four aforementioned groups on the basis that they were central to BTS operations and therefore comprised the organization's "dominant coalition" (Thompson, 1967).

Summary

There is an increasing expectation on the part of governments and the public at large, for human service organizations to demonstrate the effectiveness of their efforts. The Canadian Red Cross Society is one such organization.

A brief overview of the Red Cross was provided with special emphasis on the Edmonton Centre Blood Program; the focus of the current

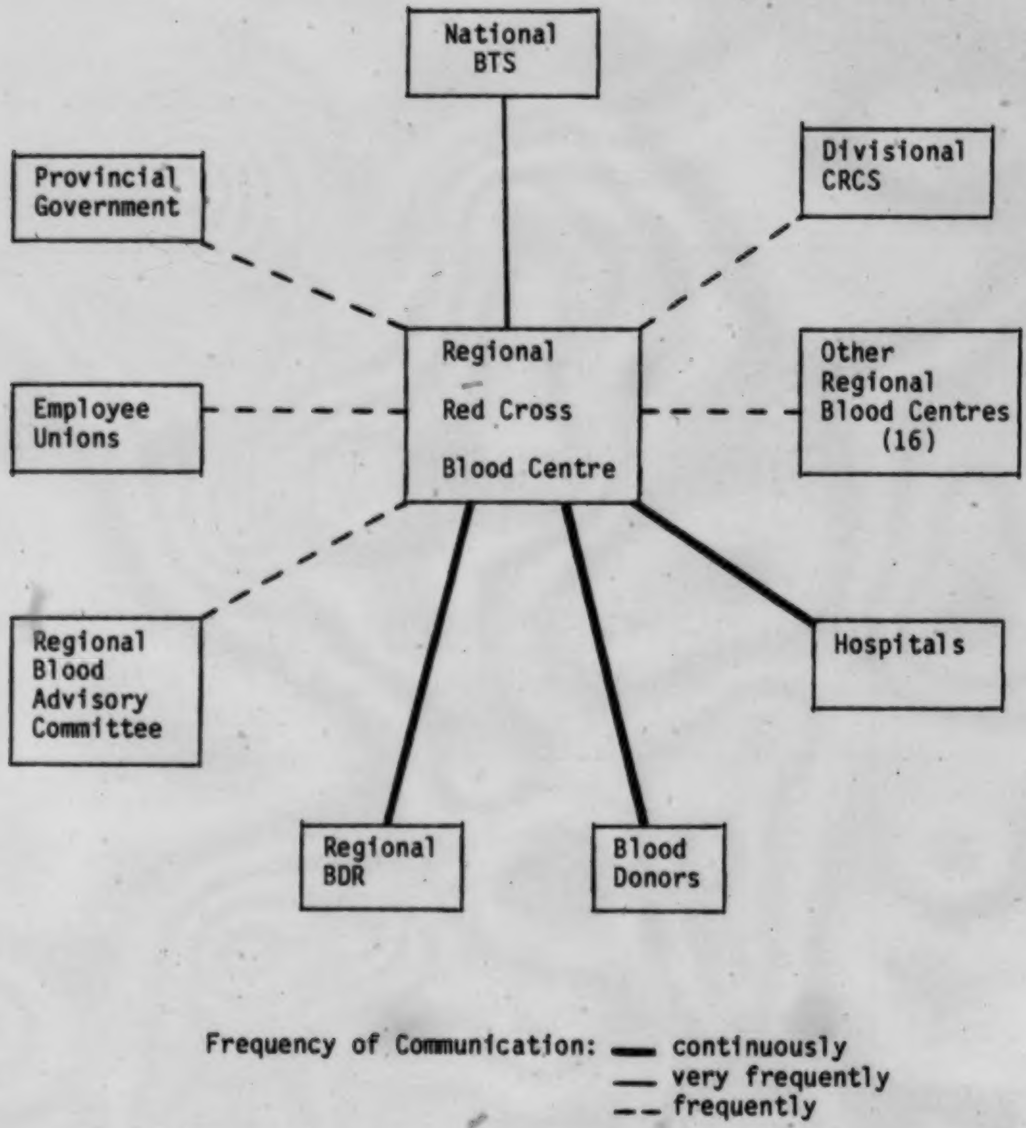
National BTS
Provincial Government
Divisional CRCS
Regional Red Cross Blood Centre
Employee Unions
Other Regional Blood Centres (16)
Regional Blood Advisory Committee
Hospitals
Regional BDR
Blood Donors
Frequency of Communication:
continuously
very frequently
frequently

Figure 1. The organizational set for a BTS Centre.

study. Finally, the goal model was identified as the approach used to assess Centre effectiveness from the perspective of four key stakeholder groups: donors, non-donors, hospitals, and BTS staff.

CHAPTER II

REVIEW OF PERTINENT LITERATURE

Introduction

The purpose of this literature review is to provide a general overview of studies on organizational effectiveness in human service organizations with particular emphasis on those relevant to the present study. The first section describes the current concept of organizational effectiveness and three of the most common approaches used to study it. This section also addresses some of the key problems and issues associated with the study of organizational effectiveness. The second section focuses on human service organizations and some of the key factors considered important in the study of effectiveness among these unique organizations.

The third section provides a review of six important studies of effectiveness conducted among industrial organizations. The fourth section is concerned with studies of organizational effectiveness in human service organizations. Although there is a paucity of research in this area, particularly with respect to voluntary agencies, an exhaustive search produced 11 particularly pertinent studies, all of which have been included here. The final section reviews two studies of effectiveness in blood banking. The research in this area is almost nonexistent and concerned primarily with technological and administrative issues rather than effectiveness per se.

Organizational Effectiveness

There is no definitive definition of organizational effectiveness but rather, it has become "one of those handy but treacherous pseudo concepts, connoting a sort of totality of organizational goodness" (Katz & Kahn, 1966, p. 150). According to Dubin (1976) it has different meanings depending upon whether the organization is viewed from the inside or the outside. That is, the definition varies with the perspective. Furthermore, as Campbell (1977) has pointed out, an organization can be effective or ineffective on a number of different facets that may be relatively independent of one another. However, in spite of these obvious limitations, the study of organizational performance by managers and researchers alike, has continued unabated for a number of reasons, including the need to:

1. assess the current performance of an organization;
2. identify areas of poor performance and determine the actions required to bring about organizational change;
3. evaluate the effectiveness of organizational development efforts; and
4. compare levels of performance among organizations (Campbell, 1977)

Goal Model

There are three prevailing approaches to the study of organizational effectiveness: the goal model, the process model, and the system resource model (Hall, 1972; Kahn, 1977; Pennings & Goodman, 1977; Price, 1972; Steers, 1977). The goal model measures organizational effectiveness with reference to goal achievement and thus, the most effective organizations are those demonstrating the greatest progress towards their goals (Price, 1968, 1972a, 1972b). Jobsen and Schneck (1982) suggest that:

> This definition of effectiveness is important because it more readily incorporates evaluative inputs from external constituents, such as for example, community, society, or specific client groups. (p.28)

Goal definition is crucial to this model and while this can present some serious difficulties (Seashore & Yuchtman, 1967), Price (1968) and Perrow (1967) suggested that these can be significantly reduced if one focuses on the operative, organizational goals that decision makers actually pursue--the prescribed goal approach. Etzioni (1960) and Mohr (1973) contended that such an approach simply created additional problems since much of organizational behavior was not distinctly goal related; furthermore, the prescribed goal approach would not provide any information on an organization's success in pursuing what it was mandated to do but only what management wanted it to do.

As an attempt to deal with this concern, Parsons (1960) recommended the use of the derived goal approach where societal benefit was used as the frame of reference for evaluating effectiveness. Steers (1977), however, considered the prescribed goal approach to be decidedly advantageous in that organizational success was measured against intentions rather than value judgements made by others.

It is apparent that the value judgements concerning what goals the organization should pursue and the process by which this judgement is made can lead to widely differing methods for assessing organizational effectiveness. Some examples are: cost benefit analysis, management by objectives, behavioral objectives and industrial/organizational psychology criteria (Campbell, 1977). Goals commonly used as indicators of effectiveness may include productivity, morale, conformity, stability, achievement, and institutionalization (Campbell, 1977; Price, 1968).

Process Model

Proponents of the process approach have suggested that effectiveness is best examined by jointly considering: goal optimization, systems perspective, and human behavior in organizational settings (Bennis, 1966; Likert, 1967, Steers, 1977). Generally speaking, effectiveness in this model is concerned with the nature of the relationships among the major components of the organizational system and how they interact to facilitate or inhibit the attainment of feasible organizational goals. Organizational elements considered in this model include structure, technology, external and internal environments, job performance, and a variety of managerial policies and actions. Some researchers (Hall, 1972; Price, 1972b) have contended that this approach does not differ markedly from the goal model since the relationships between the various organizational elements are dictated primarily by organizational goals.

A number of different models can be used in the process approach such as the operations research model, the organizational development model, and the Likert-ISR model. Commonly used indicators of effectiveness include: centralization/decentralization, organizational size, materials technology, resource acquisition, leadership style, and role clarity (Steers, 1977).

System-Resource Model

The system resource approach is based upon the premise that an organization is an open system which engages in active relationships with its environment. To this end, effectiveness is defined as the organization's ability to exploit its environment in the acquisition of scarce and valued resources (Yuchtman & Seashore, 1967). Thus, an organization is considered to be most effective when it maximizes its bargaining position with the external environment and optimizes its resource procurement. Hall (1972) suggested that this model also had some similarity to the goal approach since organizational-environmental relationships are governed principally by organizational goals. From his perspective, the argument was essentially one of semantics with the criteria proposed by the advocates of the system resource model equating to operational goals as described by Price (1972a) and Steers (1977).

Criteria of effectiveness for this model are derived from "some conceptualizations of the requirements which organizations have to meet in order to survive and to work effectively in a given situation" (Cunningham, 1978, p. 635). Effectiveness indicators frequently associated with this model include control over environment, resource acquisition, and voluntarism (Steers, 1975).

The majority of researchers have suggested that effectiveness is a multi-faceted phenomenon that is extremely difficult to conceptualize and operationalize (Flood, Scott, Ewy & Forrest, 1982; Pennings & Goodman, 1977). Organizational effectiveness is dependent not only upon the measures used, but also the viewpoint taken (Cameron, 1980; Connolly, Conlon & Deutsch, 1981; Dubin, 1976; Quinn & Cameron, 1981; Rohrbaugh, 1981). Furthermore, organizations that are effective for one group of constituents may be ineffective or harmful for another. There appears to be little agreement either on the construct or on criterion measures and while numerous studies have been carried out, there is suprisingly little overlap (Scott, 1977; Steers, 1975). According to Steers (1975) the majority of studies on organizational effectiveness have taken a relatively global approach focusing on organization wide variables while the dynamic relationships between individual behavior and effectiveness have been largely ignored. This may account for the lack of convergence across the measures. Kirchoff (1977) supported this position and suggested that the problem is further compounded by the insistence on the part of some researchers and managers to strive for an ultimate criterion measure of effectiveness. In view of the large number and variety of organizations in present day society and the undoubtedly large number of variables capable of influencing effectiveness, it seems unrealistic to expect that one particular variable by itself will have a strong effect and, thus, that a universal measure or approach is feasible.

Problems and Issues

There are a number of problems associated with the measurement of organizational effectiveness in addition to those presented in the previous sections (Campbell, 1977; Hannan & Freeman, 1977; Scott, 1977; Steers, 1975, 1977). Steers (1975, 1977) has grouped these problems into eight specific areas: construct validity, criterion stability, time perspective, multiple criteria, measurement precision, generalizability, theoretical relevance, and level of analysis.

Problems with construct validity focus primarily on the general lack of consensus as to what constitutes true measures of effectiveness. In addition, a number of the variables considered to be part of the effectiveness construct do not always correlate highly with each other (e.g., job satisfaction and performance). Criterion stability problems arise because many determinants of effectiveness change as a function of a wide variety of external and internal pressures and therefore, are relatively unstable over time. In addition, the time perspective within which effectiveness is being studied may influence the choice of criteria to be used. Generally speaking, different criteria are used for the assessment of performance on a short, intermediate, or long range basis. When multiple criteria are employed, problems may arise as a result of conflict between some of them. As a rule, organizations cannot satisfy all effectiveness criteria simultaneously and so this usually necessitates some trade-offs (Jobsen & Schneck, 1982). Problems with measurement precision are common simply because effectiveness is not an easily quantifiable concept nor independent of the observer's frame of reference. As a result, the criteria may be operationalized in many different ways thereby reducing the consistency and accuracy of the measures. Generalizability problems are common and not unexpected. Some researchers (Hall, 1972; Scott, 1977) emphasize the uniqueness of organizations and consider the search for supposedly universal indicators to be futile. In general, effectiveness criteria are highly specific with little generalizability except perhaps to other, very similar organizations. Some of the models used to study organizational effectiveness has been questioned as to their theoretical relevance. For the most part, they simply enumerate specific components of effectiveness and contribute little to an overall understanding of organizational performance. Finally, concerns have been raised with respect to the level of analysis at which organizational effectiveness studies have been focused.

Regrettably, the majority of these studies have taken a decidely macro approach which mitigates against the development of a more in-depth understanding of individual behavior and its relationship to organizational effectiveness.

Human Service Organizations

While many of the issues and problems associated with the definition and measurement of effectiveness in human service organizations are common to all organizations regardless of type, a smaller but still significant proportion arise directly as a result of the nature of human service organizations themselves.

Hasenfeld and English (1974) define human service organizations as:

> The set of organizations whose primary function is to define or alter the person's behavior, attributes, or social status in order to maintain or enhance his well being. (p. 1)

There are two major types of human service organizations (Hasenfeld & English, 1974), people changing and people processing. People changing organizations are involved in providing direct services to change people, while people processing organizations bring about change by conferring specific public status on their clients and thereby transposing them to a different set of social circumstances. For the most part, these latter organizations are concentrated in the fields of health, social service, and education and include hospitals, voluntary health and welfare agencies, public schools, universities, correctional facilities, and fire departments.

Many researchers and organization theorists maintain that human service organizations have distinctive characteristics and problems and therefore must be considered as unique and different from all other types of organizations (Harshbarger, 1974; Hasenfeld & English, 1974; Vinter, 1963). A summary and contrast of the distinctive attributes of human service organizations and business/industry is presented in Table 1. These two types of organizations differ along a number of dimensions, the most salient of them being the principal objectives and the primary beneficiaries. All other differences arise from these two key distinctions. Clearly then, these differences have important ramifications for any assessment of organizational performance.

Important Considerations for Human Service Organizations

In the previous section, some of the distinct attributes of human service organizations were identified. In assessing effectiveness in human service organizations it is necesary to pay particular attention to a number of these attributes which will be considered under four broad headings: organizational goals, the organization and its environment, technology, and professionals in human service organizations.

Organizational Goals

An organizational goal is an intended state. More specifically, it is a situation which does not exist at present but which an organization attempts to realize in the future through its actions (Etzioni, 1960). "Goals serve to answer the question of where the organization is going" (Steers, 1977, p. 20), and are considered to be any one of official, operative, or operational (Hall, 1972; Perrow, 1970, 1974). Official goals are those contained in formal organizational statements, are generally vague in nature and serve as a source of legitimacy and support (for example, Red Cross' goal of promoting health and alleviating suffering). On the other hand, operative goals reflect actual intentions of the organization; what it

Table 1

Contrasting Attributes of HSOs and Business/Industry

DIMENSION	HUMAN SERVICE ORGANIZATIONS	BUSINESS/INDUSTRIAL ORGANIZATIONS
Principal Objective	Service	Profit
Primary beneficiaries	Clients (Society)	Owners
Primary resource base	Public funds	Private Capital
Goals	Relatively vague and ambiguous	Relatively clear and explicit
Psychosocial orientation of work force	Professional	Instrumental
Transformation processes	Staff-client interactions	Employee-product interactions
Means-ends relations	Relatively indeterminant	Relatively determinant
Outputs	Relatively unclear and intangible	Relatively visible and tangible
Measures of performance	Qualitative (soft)	Quantitative (hard)
Primary environmental influences	Political and professional communities Public at large	Industry and suppliers

Note. Adapted from "Domain theory: An introduction to organizational behavior in human service organizations" by J. M. Kouzes and P. R. Mico, The Journal of Applied Behavioral Science, 1979, 15, 445 - 469.

does rather than what it claims it does. Finally, operational goals are those having clearly specified criteria for determining the degree of success/failure and are the means whereby progress towards official and operative goals can be evaluated. For example, an official and operative goal of the Red Cross is to provide blood and blood products free of charge to all Canadian hospitals. As a means of achieving this goal, one of the operational goals is to collect one million units of blood annually.

Goals serve a number of functions for the organization including providing standards for evaluation and sources of legitimacy for members (Steers, 1977). Furthermore, in instances where individuals identify closely with an organization's goals, such as in the case of the Red Cross, this can assist the organization in acquiring the necessary human and financial resources. However, goals can also create problems, particularly in those instances where they are so highly specific that they serve to restrain all creativity and innovation (Perrow, 1970). Vague and intangible goals pose a different threat in that they make evaluation difficult and usually result in less than satisfactory performance (Warner, 1967). Human service organizations commonly have very vague goals and consequently, the measurement of goal attainment is regularly neglected (Hasenfeld & English, 1974; Warner, 1967). Furthermore, the general lack of independence that human service organizations have with respect to goal determination, dictates that varied perspectives must be considered. As a consequence, human service organizations are usually so busy meeting the expectations of their various supporters that they are likely to find themselves committed to pursuing multiple and oftentimes conflicting goals (Jobsen & Schneck, 1980, 1982; Warner, 1967).

The Organization and Its Environment

The environment of an organization is generally defined as the sum total of those things which are external to the organization but which have impact on it either directly or indirectly (Perrow, 1979; Thompson, 1967). Environmental influences are classified as one of two types (Hall, 1972): (1) general, those which focus on such factors as political and economic conditions, and (2) specific, those which deal with inter-organizational relationships. Some organizations are more dependent than others on their environment and the greater the dependency, the more vulnerable the organization (Katz & Kahn, 1966). This is especially true for human service organizations which depend heavily upon their environments not only for resource acquisition, but also, as a source of legitimation (Wamsley & Zald, 1973). In short, the survival of the majority of human service organizations rests with certain elements in their environment particularly clients, suppliers, regulatory groups, and funding agencies (Inzerilli, 1979; Levine & White, 1961). These elements are relevant or potentially relevant to goal setting and goal attainment and are defined as the organization's task environment (Thompson, 1967).

Organizations are constantly being evaluated by a wide variety of assessors in their environment and as Starbuck (1976) and Dubin (1976) have pointed out, the results of these evaluations depend upon the perceptions of the observers. The greater the number of elements in the organization's task environment, the wider the range of perceptions of effectiveness. Furthermore, the dynamic nature of this environment dictates that human service organizations must constantly reappraise their goals and performance (Thompson & McEwen, 1980).

Technology

A number of organization theorists contend that the type of work being done in an organization, that is, its technology, has importance not only for differentiating among organizations but also, for explaining organizational processes and their outcome (Hall, 1972; Perrow, 1967; Thompson, 1967). Technology, which is a critical factor in the study of effectiveness in human service organizations, is defined by Hasenfeld and English (1974) as:

> A set of systematic procedures used by the organization to bring about pre-determined changes in its raw materials (i.e. clients), or to move the raw material from state A to a given state B. (p. 279)

Technology in human service organizations is generally indeterminant for three reasons: (1) the exact nature of the technologies is uncertain because of the variability in the raw materials (in this case the clients), (2) the techniques are often unpredictable because of limited knowledge of cause-effect relationships, and, (3) the desired outcomes are difficult to specify in quantifiable terms (Hasenfeld & English, 1974; Perrow, 1967). Human service organizations vary in the degree of determinacy of their technologies. For example, some medical technologies are highly determinant while educational technologies are often highly indeterminant. Perrow (1970) points out that when raw materials are well understood, they can be better controlled and there will be greater efficiency in the application of the technologies. However, when the raw materials are not well understood--as in the case with most human service organizations--outcomes from transformation processes will tend to be unpredictable. As a result, human service organizations often develop very elaborate service ideologies in an attempt to deal with these uncertainties and in many cases, these ideologies are extremely difficult, if not impossible, to quantify.

Professionals in Human Service Organizations

Professionals comprise the overwhelming majority of employees in human service organizations. Hasenfeld and English (1974) suggest that there are three major reasons for this.

> [1] They (the professionals) possess the technical expertise necessary to implement their (the human service organizations') service delivery systems;
> [2] They assist in legitimating organizational goals and provide liaison with relevant publics in the acquisition of needed resources; and finally,
> [3] professionals help to certify that clients, students, patients, or inmates have achieved the new status for which they have been processed or changed. (p. 413)

Friedson (1974) contends that professionals often have significant control over the content and terms of their work and may resent any meaningful participation or involvement on the part of clients or any other non-professional group. Furthermore, as Hasenfeld and English (1974) point out, their generally high commitment to professional goals can sometimes be at the expense of organizational goals. Longest (1976) suggests, that this conflict between organizational and professional commitment is particularly prominent in the area of efficiency (cost). Many professionals simply cannot rationalize their professional service goals with organizational goals of cost containment. As a result, professional emphasis is usually placed upon process rather than output or goal issues.

Scott (1977) has stated that professionals influence not only the structure and service delivery patterns of human service organizations but also, the evaluation processes that are used. As a consequence, studies of organizational effectiveness in human services often focus on criteria determined by the particular profession under study, and fail to account for either organizational or societal goals and expectations.

Studies of Industrial Organizations

Georgopoulos and Tannenbaum (1957) asserted that definitions of effectiveness should take into account organizational goals as well as the means used to attain them. They suggested, however, that effective organizations exhibited certain common characteristics such as flexibility and positive intra-organizational relationships, and therefore, research on effectiveness should include these common indicators. A number of researchers, notably Hall (1972) and Scott (1977), have cautioned against this approach stating that the development of universal criteria is an unrealistic objective in view of the highly specific nature of organizational goals and the means used to attain them.

In their study of a large scale trucking firm, Georgopoulos and Tannenbaum (1957) defined effectiveness as the extent to which an organization fulfilled its objectives without placing excessive demands upon its members and without exhausting its means and resources. Three criteria were proposed as measures of effectiveness: productivity, intra-organizational strain, and organizational flexibility. Supervisory and non-supervisory personnel in five plants were asked to rank the performance of their units ($N = 32$) with respect to these criteria and the resultant effectiveness scores were found to be significantly related to independent assessments by experts ($\underline{r} = .35$ to $.73$; $p < .05$)

Furthermore, the multiple correlation coefficient between these criteria and effectiveness on the basis of the findings in this study was found to be .75. These results lend support to the validity of the three criteria. The authors concluded that in view of the high degree of congruency between the effectiveness ratings of the workers and those of the independent experts, employees appeared to be able to assess their own unit's performance in a satisfactory and reliable manner.

Friedlander and Pickle (1968) contended that an effective organization was one which met the needs of its internal members as well as those of its external constituents and therefore, any comprehensive assessment of organizational performance should include a study of inter- as well as intra-organizational relationships.

In their study of a stratified random sample of small business organizations in Texas (N = 97) they assessed effectiveness from three perspectives: owner fulfillment (profitability), member fulfillment (employee satisfaction), and societal fulfillment (customer, supplier, creditor, community, and government satisfaction). Separate scales were developed to measure effectiveness for each group. Reliability coefficients using the KR_{20} formula were used to calculate the internal consistency of each scale and results ranged from .60 for the government scale to .96 for the customer scale. The results of the study confirmed the authors' theory that effectiveness was dependent upon the observers' frame of reference. Some significant positive relationships were found to exist between societal and employee satisfaction, customer and owner satisfaction, and owner satisfaction and employee confidence in management; however, these relationships were relatively weak. Interestingly, a negative relationship was demonstrated between customer and government fulfillment. Such a result would seem to suggest that all five societal components cannot be maximally satisfied simultaneously, but rather, some at the partial expense of others. In view of this, the authors concluded that a successful organization was one which was able to coordinate its activities in such a manner as to satisfy the needs of significant power groups affecting the organization both internally and externally. Similar findings were demonstrated by Jobsen and Schneck (1980; 1982) in their study of the interrelationships among effectiveness criteria in RCMP units in Alberta.

Hirsch (1975) examined and compared organizational effectiveness in the phonograph record and pharmaceutical industries in terms of their relationships with their respective institutional environments. Organizational effectiveness, which was measured in terms of financial profitability, focused on the relative success of each industry in dealing with uncertainties inherent in the market, the selection of new products, and the persuasion of regulatory agencies for special concessions. Information was obtained from a number of sources including personal interviews conducted among 53 top executives in both industries, attendance at various trade meetings, and a review of the relevant literature including congressional records. Hirsch (1975) found that the typical pharmaceutical firm was much more profitable than the record firm, and he attributed much of the difference to the pharmaceutical firm's ability to influence pricing, the distribution by copyright and patent laws, and, external opinion leaders (i.e. politicians). It was concluded that an effective organization was one that could manipulate its environment in a manner that was favorable to its own interest.

Negandhi and Reimann (1973) postulated that organizational effectiveness was dependent upon the perceptions and concerns of top management towards task environmental agents, namely, consumers, employees, suppliers, distributors, community, government, and stockholders. In their study of 30 manufacturing firms in India, they assessed the relationships between these perceptions and concerns, and decentralization and effectiveness. Top decision-makers were asked to rank the intensity of their concerns for the various task environmental agents from which organizational scores were calculated. The authors did not discuss the issues of reliability or validity with respect to the questionnaires and from the sample presented in their article, it would appear that both the questions and answers were open to a wide range of interpretations thus making the results open to question.

Negandhi and Reimann (1973) subsequently collected data on decision-making patterns and organizational effectiveness. Effectiveness was operationalized in terms of a number of economic and behavioral criteria, such as: ability to attract and maintain high quality personnel, employee morale and staff turnover, interdepartmental and interpersonal relationships, and net profits. Spearman's rank correlation coefficients between the concern scores and the decision-making (decentralization) indices, and between the decentralization indices and the economic and behavioral scores for effectiveness were found to be .81, .62, and .89 ($p < .0001$) respectively. In the author's view, the lesser relationship with respect to the economic criteria was to be expected in view of the sellers' market conditions which existed in India with respect to the firms included in their study. The authors concluded that there was a positive relationship between concern about task environment and decentralization and, further, that decentralized firms were more effective in both behavioral and economic terms. Pennings (1976), in his study of 40 offices of an American brokerage firm, also found that participative, autonomous, and decentralized organizations were more effective. These findings would support recent management studies conducted for the Canadian Red Cross Blood Transfusion Service which concluded that decentralization would have a positive effect upon Blood Centre performance (Croft Palmer, 1979).

Using a sample of 23 bank branches, Schneider, Parkington and Buxton (1980), developed and implemented a strategy for evaluating the effectiveness of branch practices and procedures in meeting client needs. Specifically, the authors focused on employee and customer perceptions of effectiveness--that is, the extent to which client needs are met--since it was their contention that the perceptions of both groups were highly related. While the authors recognized that perception-based studies were often the subject of criticism because of their supposed bias, it was their view that perceptions were central to the understanding of organizational behavior.

Two separate survey questionnaires were developed on the basis of a content analysis of a series of open-ended interviews with a sample of staff and clients. The focus of interest of both questionnaires was bank policies and procedures relating to customer service. Consequently, the employee questionnaire dealt with issues such as service orientation (enthusiastic or bureaucratic), managerial functions, and support systems, while the client questionnaire dealt with issues such as staff courtesy, staff competency, branch administration, employeeturnover and employee attitudes. A total sample of 263 employees and 1,657 clients completed useable questionnaires.

The results of the study demonstrated a high positive correlation between employee and client perceptions of quality of service ($r = .67$; $p < .01$). The authors also found a number of strong, positive relationships between client perceptions of overall quality of service and employee perceptions of enthusiastic service orientation ($r = .71$; $p < .01$), managerial functions ($r = .54$; $p < .01$) and a policy of active customer retention ($r = .63$; $p < .01$). Insofar as support systems were concerned, employee perceptions on personnel support ($r = .46$; $p < .05$) and equipment/supply support ($r = .50$; $p < .01$) were also significantly and positively related to customer perceptions of overall quality of service. In view of these results, the authors concluded that boundary personnel--those who deal with customers--may be of significant value to the organization in assessing customer perceptions of organizational performance.

Duncan (1973) conceptualized organizational effectiveness as having three components: goal achievement, integration of the employee into the organization's social system, and adaptation to the environment. In a study of 22 decision units in three manufacturing types of structural modifications implemented by decision units in attempting to deal with perceived environmental uncertainty and the and research and development organizations, Duncan (1973) assessed the relationships of these modifications to organizational effectiveness. Information on structure, goal attainment, and decision-making processes was collected via questionnaires, interviews, and reviews of official documents, and subsequently categorized in terms of low or high uncertainty and low or high influence over the environment with respect to decision-making. The results indicated that in situations of low uncertainty, both rigid and flexible decision-making structures were effective. However, in cases of high uncertainty, organizations having more flexible decision-making structures were found to be more effective because of their ability to adapt quickly to the changing environment.

Studies of Human Service Organizations

Georgopoulos and Mann (1962) investigated determinants of effectiveness in ten voluntary, nonprofit, nongovernmental, short stay, community general hospitals in Michigan between 1957 and 1960. In their view, organizational effectiveness was best defined as the extent to which an organization achieved its goals. They contended that measures of effectiveness should be based upon organizationally derived, rather than externally derived, criteria since only knowledgeable individuals should be asked to rate an organization's performance. This approach to the assessment of performance in public service organizations assumes that clients are not knowledgeable and therefore should not be included in the evaluation process. This is in contradiction to the position taken by Jobsen and Schneck (1982) who suggested that "in public service organizations, externally derived criteria from client groups served are an important and necessary source of evaluation" (p. 44). This position is also supported by Coulter (1979) who recommended that effectiveness of public service agencies should be determined principally on the basis of externally derived criteria while Griffith (1978), in studying hospital performance in the United States, strongly suggested that patients be included in any evaluation of quality.

Georgopoulos and Mann (1962) developed four measures of effectiveness--nursing care, medical care, noncomparative overall patient care, comparative overall patient care--from information supplied by 880 respondents from among medical staff, registered nurses, technicians, and administrative personnel. Through the use of questionnaires, respondents were subsequently asked to rate different programs in the hospital with which they were familiar: administrators rated overall performance; a panel of outside physicians rated quality of care; and specific groups within the hospital rated their own functional areas. Some data were collected through personal interviews in order to check the validity of the questionnaire data. The results demonstrated a positive correlation (not always statistically significant) among group ratings for all ten hospitals. All hospital intercorrelations were found to be positively and statistically significant. Hospitals scoring high on any one measure were also found to score high on the remaining measures. However, the degree of relationship between the measures varied considerably ranging from $r = .60$ to $r = .96$ ($p < .001$) While these results are not unexpected, their relevance is perhaps questionable when one considers the general unwillingness of professionals to publicly criticize their peers (Donabedian, 1967). The inclusion of objective measures or other knowledgeable groups such as clients might have made the results more meaningful.

Rice (1971) proposed the use of the goal model for assessment of effectiveness in public psychiatric hospitals. Recognizing the highly specific nature of most organizational goals, Rice (1971) suggested that organizations be classified into very broad categories for which generalized sets of organizational goals could be determined. These goals would then be operationalized as output variables and related to input and systems variables by studying the covariation in their measures.

Rice (1971) developed a comprehensive list of goals based upon the results of a nationwide survey of psychiatric personnel such as psychiatrists, social workers, and nurses, and community members as represented by the National Association of Mental Health. Six broad goal statements were identified--patient care, protection, social restoration, training and education, research, administration--from which output variables were developed. Input variables were defined as measures of the organization's task environment and included demographic data as well as information on community participation and resources. Systems variables were conceptualized as structural and operational characteristics of the organization, and included such measures as staffing patterns, treatments, authority, and policies and procedures.

Rice (1971) concluded that while his model would not provide information on causal relationships between variables, it would prove to be effective in predicting various hospital outputs from a knowledge ofinput and systems variables. He argued that a model of this nature would be an essential first step in establishing an empirical base for further research.

Webb (1974) stated that while the study of effectiveness among voluntary agencies had been neglected in the past, the increasingly important roles that such organizations were playing in present day society indicated that such research was now essential. A number of recent Canadian and other studies have also stressed the importance of systematic qualitative and quantitative evaluation of voluntary agencies' programs and services, particularly in view of the ever increasing amounts of public monies used to support such activities (Carter, 1974; Dorolle, 1975; People in Action, 1978; Tansley, 1975).

In his study of a large presbytery, Webb (1974) defined effectiveness as the extent to which the various church organizations attained their goals. An original list of 28 goals were presented in questionnaire form to a random sample of members (N = 181) who were asked to rate the relative importance that their respective congregations gave to each goal. Responses were factor analyzed and five factors emerged on which 14 of the 28 goals loaded heavily. A second questionnaire which included these 14 goals--labelled by the author as an effectiveness index--was circulated among another random sample of members (N=560) to collect data on specific organizational characteristics identified in the literature and considered to be indicators of effectiveness including conflict, adequacy of authority, planning, goal consensus and clarity, cohesion, efficiency, adaptability, and support. The results indicated that cohesion, efficiency, adaptability, and support were significantly related to ratings of overall effectiveness while planning, goal consensus, and authority had no significant impact. Webb concluded that while his findings might provide some insight in to the study of other church organizations it was questionable whether they could be generalized to other types of voluntary agencies. This would seem a realistic consideration when one examines the wide range of activities presently incorporated in the voluntary sector including such programs as assistance to animals in distress and sophisticated research on specific disease groups.

In their study of 8593 patients in 15 American general hospitals, Flood et al. (1982) highlighted two central problems facing researchers pursuing organizational effectiveness studies: (1) the definition of effectiveness, and, (2) the selection of appropriate effectiveness indicators.

Using the goal attainment model, the authors attempted to determine the relative importance of three structural units--hospital, surgical staff and organization, and individual surgeon characteristics--on the quality of surgical care which was defined as the extent of morbidity occurring within seven days after surgery or mortality within 40 days after surgery. The overall hospital organization was considered in relation to three variables: size, expenditures for patient care, and teaching status. Insofar as surgical staff organization and individual surgeon characteristics were concerned, five variables were considered: power, differentiation, coordination, staff qualifications, and commitment.

For the three hospital-related variables, the authors found that only expenditures were significantly and positively related to the quality of surgical care. For surgical staff organization, coordination (as measured by the number of contract physicians) and differentiation (as measured by the number of surgical specialities), were found to be significantly and positively related to the quality of surgical care. Finally, when individual surgeon characteristics were considered, commitment (as measured by the percentage of the individual surgeon's practice in the study hospital) and staff qualifications (as measured by the number of residencies completed) were also found to be significantly and positively related--although somewhat weakly--to the quality of surgical care. In view of these results, the authors concluded that certain organizational attributes (including the organization of professional staff) are more closely related to surgical outcomes than the individual characteristics of the surgeons themselves. Rundall (1983), however, cautions that in view of the multiple and sometimes conflicting goals that hospitals pursue, these findings may be open to other interpretations. He suggests that all the hospitals involved in the study may be equally effective but simply have differing goal priorities.

Kushlick (1967) recommend a goal approach for the measurement of effectiveness of community health programs. In his proposal for the development of a methodology for the assessment of effectiveness of medical programs for mentally subnormal children, Kushlick (1967) suggested that effectiveness be measured by the extent to which specific client-oriented and administrative objectives were met. He further suggested that a truly comprehensive picture of effectiveness could not be obtained unless both types of objectives are measured simultaneously and independently. Clearly, Kushlick (1967) was attempting to deal with some of the critical problems inherent in the self-assessment of medical care by practitioners. Donabedian (1967) also noted a number of difficulties associated with the process of peer review, in particular, the general unwillingness of physician evaluators to downgrade their peers.

Kushlick (1967) proposed that client-oriented criteria include such factors as decreases in mortality and morbidity rates, and decreases in coping problems among families of affected children. Administrative criteria, which he considered to be more complex due the their conflicting nature particularly with client-oriented criteria, included such factors as cost reduction, decreases in the number of complaints from clients and the general public, and better manpower utilization. Regrettably, his assessment of quality of care was based primarily upon generally available outcome measures which are not always considered relevant measures of quality (Chen, Bush, & Zaremba, 1975; Thompson, 1977).

Kushlick (1967) concluded that while existing medical organizations may not necessarily share his concern for comprehensive assessment of medical care programs, such assessment was necessary if one hoped to observe the extent to which arbitrary standards of quality were achieved administratively as well as in terms of the client served.

In a discussion of organizational behavior, attitudes, and processes, Coulter (1979) contended that while these factors could contribute to effectiveness, they should not be confused with it. He suggested that organizational effectiveness for public agencies should be defined primarily in relation to achievement of externally defined goals. In his study of public fire services, effectiveness was measured in terms of goal attainment while variations in performance were considered to be functions of internal processes and environmental characteristics. More specifically, effectiveness was defined as the extent to which fire service avoided or reduced property loss, death, or injury due to fire.

Four performance measures--productivity, expenditures, prevention, suppression--were used to assess effectiveness. These measures were divided into quartiles and cities were divided equally among them according to their scores on each measure. A nationwide mail survey of fire departments, building inspectors, and city managers in 324 municipalities, as well as an extensive review of pertinent literature, yielded 36 environmental and organizational variables. Discriminant analysis was then used to determine the relationship between the four polychotomous dependent variables and the several independent variables. Kerlinger (1973) and Nie, Hull, Jenkins, Steinbrenner and Bent (1975) have suggested that such an approach can prove effective in distinguishing between two or more groups on the basis of a number of characteristics such as those utilized by Coulter (1979) in this study. Furthermore, the non-linear relationships which were found to exist between the variables can be more appropriately handled using discriminant analysis (Nie et al., 1975).

An analysis of the results demonstrated significant environmental and organizational differences among levels of effectiveness for all four dimensions. The most effective municipalities were found to have the following characteristics: high social class, small population, well trained fire fighters, large part-time staff, small administrative staff, good emergency response, and favorable climate. Coulter (1979) concluded that the organization and its staff, as well as its complexity and degree of professionalism as they relate to the organization-environmental relationships, significantly influenced service delivery and thus contributed to overall ratings of effectiveness.

Using a sample (N = 61) of small, short stay hospitals in Tennessee, Rushing (1974) studied the differences in effectiveness and efficiency between profit and non-profit institutions. Efficiency was estimated in terms of occupancy rates. Effectiveness was defined as the degree to which the hospital exploited the resources in the community in order to achieve its goals, and operationalized as average daily cost per patient. Unfortunately however, the efficiency measure did not take into account differential discharge patterns that could exist between hospitals. Additionally, the effectiveness measure was limited to inpatient data only and excluded a number of significant components of hospital performance, namely, outpatient services, research, and education (Evans, 1971). As a result, hospitals providing large quantities of these latter services could compare quite unfavorably to other hospitals who provide none of these services but do provide larger volumes of inpatient services. Finally, no attempt was made to account for case-mix differences, an extremely important variable in inter-hospital comparisons (Duckett & Kristofferson, 1978; Evans, 1971).

In looking at decision making, Rushing (1974) found that profit hospitals tended to be less structured than their non-profit counterparts. He attributed this finding to the fact that economic criteria were the single most important factor in decision-making in profit hospitals while non-profit hospitals tended to make decisions based upon multiple criteria such as, community needs, interests of board members, and empire building tendencies of senior executives. In addition, the data indicated that while there was no statistically significant difference in efficiency between the two groups, profit hospitals were found to be more effective than non-profit hospitals because their average daily costs per patient were directly related to community wealth. Similar findings were reported in a recent study by Lewin, Derzon and Margulies (1981). Aside from profit versus non-profit considerations, the goals of the organizations were found to be similar. Rushing (1974) concluded that a profit-making orientation was a significant organizational property that influenced the relationships between intra-organizational variables. In view of the limitations mentioned earlier, however, it is questionable whether Rushing's (1974) data enabled him to make comparisons between the two groups of hospitals on any meaningful basis. Further, if the findings were indeed valid, one would expect a small to medium effect (Cohen, 1977). Yet Rushing (1974) found a difference with an N of 61, implying a probable large effect . This is further indication that the differences found probably had to be augmented by those factors already noted.

Smith and Brown (1964) examined interrelationships between control and communication and the effects on member loyalty and organizational effectiveness in a random sample (N = 112) of local leagues of the

League of Women Voters. Communications was operationalized as the frequency of information transmittal while control was operationalized as perceived influence of groups or individuals in determining league policies. Effectiveness was defined as the extent to which the league met the goals established by the national organization and operationalized as: high quality and quantity of league publications, impact of the league in the local community, size of the league relative to the community, and amount of member activity and their knowledge of league activities.

Information on communication, control, and member satisfaction and loyalty was obtained via questionnaires mailed to approximately 25 randomly selected members (a few larger leagues were sampled more than once), in each of the local leagues (total N of respondents was 2947; a response rate of 77%), while effectiveness scores were determined from ratings by 29 selected national office representatives. The findings demonstrated a relationship between league size and measures of communication and control ($\underline{r}$ = .74; $\underline{p}$ = .001). In addition, control was found to be the most important variable in determining effectiveness ($\underline{r}$ = .31; $\underline{p}$ = .001), while communication was found to be a more important variable when member loyalty was the dependent variable ($\underline{r}$ = .379; $\underline{p}$ = .001). Smith and Brown (1964) concluded that a high total amount of control that was relatively decentralized was the important correlate of effectiveness regardless of communication. These findings support those of Negandhi and Reimann (1973), and Pennings (1976), whose studies demonstrated that decentralized firms were more effective than their more centralized counterparts.

Stewart (1976) contended that organizations pass through four developmental stages--foundation, consolidation, operation, attainment--with specific objectives for each stage (in order): acquisition, consolidation, power, and goal. He suggested therefore that effectiveness was best defined as the extent to which an organization made progress towards these goals or objectives. Price (1972a, 1972b) and Seashore and Yuchtman (1976), however, would argue that the first three objectives are means or penultimate objectives rather than goals or final outcomes.

Stewart (1976) utilized a top leadership perspective similar to that of Cameron (1978), Gross (1969, 1974) and Gross and Grambsch (1968) in studying the values, interests and goal priorities of policy leaders in the National Federation of Priests' Councils. This perspective was used to determine the influence of the policy leaders on the effectiveness of commonweal (public welfare) and particularistic (organization specific) goals including: due process, social action programs, professional standards, and optional celibacy. Delegates were polled in 1969 (N = 203) and 1972 (N = 186) on goal priorities, values, and perceptions on progress. Information was also obtained from official documents. Values were found to have a greater relationship with effectiveness of commonweal goals while interests were more strongly associated with the effectiveness of particularistic goals. Furthermore, commonweal goals were found to register greater effectiveness over time which was attributed to the fact that Church authority imposed considerable constraints on the attainment of particularistic goals such as optional celibacy. Stewart (1976) concluded that effectiveness was viewed differently depending upon the values and interests of the individuals involved and that intentions could be used as determinants of effectiveness provided opposition factors were considered. For example, the priests' intentions to gain acceptance for optional celibacy would have to be balanced against the traditional opposition of the Church. This balancing of opposing views would seem to be particularly important for organizations whose success depends heavily upon factors in their external environment (Hirsch, 1975).

Cameron (1978) conducted a study aimed at the identification of criteria for, and the subsequent measurement of, organizational effectiveness in colleges and universities in the northeastern United States. He presented a number of problems associated with studies of this nature including: the majority of empirical research has used a wide variety of sources and types of criteria with few common elements; very few studies have been conducted to assess effectiveness of educational institutions; and problems in the identification and measurement of discrete goals for colleges and universities. Gross (1969; 1974; Gross & Grambsch, 1968), in his study of 69 American universities, identified 47 specific goals perceived by faculty members and administrators; however, Cameron (1978) does not appear to have considered these particularly helpful to his research which focused upon organizational characteristics rather than goals, as indicators of effectiveness. These characteristics included such factors as the acquisition of resources, the vitality and viability of internal processes, and organizational outcomes.

The Cameron (1978) study was conducted in two phases and limited to six institutions having less than ten thousand undergraduate students. Perceptual and objective data were collected from formal decision-makers--top administrators and selected faculty members--via questionnaires and interviews. Study one (N = 191) attempted to determine the reliability and validity of the criteria while study two (N = 134) enabled Cameron (1978) to refine and improve the measurement instru-ments. Nine effectiveness dimensions were identified through factor analytic procedures and each corresponding scale had reliability coefficients ranging from .601 to .928: student education satisfaction, student academic development, student career development, student personal development, faculty and administrator employment satisfaction, professional development and quality of the faculty, systems openness and community interaction, ability to acquire resources, and organizational health. An analysis of job categories and the effectiveness dimensions between the institutions suggested that institutional affiliation had significant effect on responses for organizational effectiveness while job or position was not important.

In his conclusions, Cameron outlined a number of his concerns about doing effectiveness studies including such matters as the general unavailability of objective data and the limitations of simple methodological approaches (such as using questionnaires), in the investigation of complex, social phenomena. In his view, models derived from the physical sciences were of little assistance when applied to such phenomena. He also noted the suspicion with which university officials generally viewed any attempts at measuring organizational performance. Hasenfeld and English (1974) in their discussion of human service organizations, concluded that this was not an uncommon phenomenon but one that would have to be altered in view of the increasing public demand for meaningful evaluation of human service programs.

Molnar and Rogers (1976), in their study of the goal and system resource approaches, investigated the interrelationships among various effectiveness indicators underlying the two approaches, as well as the pattern of relationships between both approaches and four organizational decision-making variables: formalization, autonomy, accountability, and goal clarity. In their discussion of the two models, they argued that a serious drawback to the use of the goal model was the lack of universal indicators. However, other researchers (Cameron, 1978; Hall, 1972; Scott, 1977) have emphasized the uniqueness of organizations and consider universal measures unsuitable. Molnar and Rogers (1976) further argued that the system resource approach, when used to measure effectiveness in public organizations, should be revised since the ability of the organization to exploit its environment was not an appropriate measure for this group of organizations. The authors contended that the distribution of services and/or resources should be the focus of assessment. This position would appear to be open to question since to a large degree, the effectiveness of public organizations, particularly voluntary agencies, will depend upon their ability to mobilize and utilize community resources, both financial and human.

Molnar and Rogers (1976) studied 110 public agencies in Iowa and defined effectiveness in terms of the agency's ability to distribute resources or provide services to the environment. Top administrators in each of the agencies were interviewed as well as senior officials in 57 voluntary organizations and county, state, and federal agencies.

Respondents were asked to rate the effectiveness of the agencies in terms of goal attainment and other variables such as coordination, independence, and cooperation. Analysis of the results demonstrated no statistically significant relationship between goal effectiveness measures and between self and peer ratings. The authors suggested that this was due to variations in raters' perspectives rather than actual performance. Three of the four system resource indicators were found to be related: resource difference, resource inflow, and administrative orientation. Again, no statistically significant relationship between self and peer ratings was demonstrated. In summary, only limited consistency was demonstrated between the two approaches with autonomy being negatively correlated with all effectiveness indicators across both approaches except for the self rating. Molnar and Rogers (1976) concluded that the two approaches were only weakly related and measured distinct but relevant dimensions of effectiveness.

Studies of Blood Transfusion Services

Pegels, Seagle, Cumming, Kendall and Shubsda (1977) briefly outlined the four objectives of the national blood policy recently established in the United States: adequate supply, delivery of highest quality service (volunteer donors and component therapy), patient accessibility regardless of income, and efficient collection, storage, and utilization. It is apparent that U.S. policymakers have equated volunteer donors with quality, a position supported by other researchers, notably, Richard Titmuss (1970). However, while the incidence of Australia antigen has been found to be generally much higher in commercially donated blood (Cooper & Culyer, 1973; Ireland & Koch, 1974), Surgenor and Cerveny (1978) in their study of conversion from paid to volunteer donors in New Mexico, found no statistically significant difference in the incidence rates between the two groups. Other researchers have suggested that a commercial system can be effective and efficient provided the process of donor selection is carefully designed to select individuals from low risk groups (Cooper & Culyer, 1973; Hough, 1978).

Pegels et al. (1977) developed a computer based interactive planning system to study effectiveness of four selected operating policies advocated to achieve supply, quality, and efficiency goals: use of frozen blood, extension of legal life of blood from 21 to 28 days, improved scheduling of collection clinics, and use of FIFO (First-In-First-Out) inventory control procedures. The impact of each of these policies was examined in relation to the goals of a regional transfusion service--minimize shortages and wastage, maximize quality, minimize costs--and operationalized as aggregate levels of inventory over time, average age (in days) of blood transfused, average units outdated (per day), and estimated semi-annual costs. Six months data were utilized from a mid-west blood region considered to be representative of other blood regions throughout the country. It was found that the use of frozen blood decreased outdating and average age of blood transfused; however, the associated increase in costs was considered prohibitive. The extension of legal life increased inventory levels while rescheduling was found to reduce shortages with little increase in overall costs. Finally, the use of FIFO procedures was found to increase inventory levels but had no significant effect on the other indicators. This is contrary to the findings of Cohen and Pierskalla (1975) which demonstrated that FIFO policies were superior in terms of all performance indicators: outdates, shortages, and number of units transfused. Pegels et al. (1977) concluded that the most effective overall regional blood bank policy would be one that incorporated extension of the legal life of blood, improvement of blood collection scheduling, and use of FIFO inventory techniques.

Pierskalla, Sassetti, Cohen, Deuermeyer, Merritt, Consolo, Garvey, Goodfriend and Sauter (1980) presented a brief discussion of some of the most critical problems associated with blood banking activities in the United States: high outdate rates, persistent shortages, and continued difficulties in expansion of the volunteer donor base. Davey (1979) in his recent review of the Canadian Red Cross Blood Transfusion Service, noted similar difficulties.

Pierskalla _et al_. (1980) believed that these problems become particularly important when viewed in the context of regionalization, a current issue in blood banking. Regionalization was defined as the coordination of blood services within a geographically defined service area for the purpose of providing more effective and efficient services through the cooperation and coordination of the various blood banking agencies.

These authors attempted to study the various regionalization models with a view to determining the relative effectiveness and efficiency of each. Effectiveness was defined as the extent to which adequate supplies of quality products were made available to patients while efficiency was concerned with maximum coordination of activities and minimum resource consumption both human and financial. Data were collected for the years 1975 to 1977 inclusive, from seven Chicago metropolitan blood centres, 66 Chicago hospitals, and five other regional blood centres throughout the country including the New York Blood Centre and the Los Angeles-Orange Counties Red Cross Blood Centres. The data included information on all aspects of blood bank operations such as structure, personnel, budgets, donor recruitment policies, inventory policies, wastage rates, turnover rates, and relationships with other agencies. The findings indicated that regionalization had a significant number of benefits, such as, smoothing of fluctuations in supply and demand, reduced competition for donors, reduced outdating, and economies of scale for levels above fifty thousand units annually. Furthermore, the single regional centre approach was found to be most effective. However, the authors concluded that the appropriate regional structure for an area was dependent upon such variables as level of activity, cost effectiveness and efficiency, and the relationships between the interested parties. The single regional centre approach is presently used by the Canadian Red Cross Blood Transfusion Service (see Figure 1). However, the use of such an approach in Canada is considerably facilitated by the relative absence of other blood transfusion services (both commercial and voluntary) with the exception of firms involved in the collection, processing and distribution of fractionation products (Inter-Provincial Ad Hoc Committee on Plasma Fractionation, 1980) which is not the case in the United States.

Summary

This review has illustrated that the study of organizational effectiveness has been approached from different organization levels, operationalized in a myriad of ways, and measured by a variety of methods. While some researchers have stressed the need for the development of universal indicators of effectiveness, others have emphasized that such a model is neither feasible nor appropriate. The reliability of the measures has been frequently suspect since few replication studies have been conducted. To some extent however, this is understandable when one considers the dynamic nature of complex organizational behavior. While a few attempts have been made to ensure the validity of the instruments, the lack of objective data, particularly in human service organizations has made this difficult. The lack of consensus among researchers and managers as to what constitutes effectiveness has further compounded this problem.

The research has stressed the importance of considering the organization's task environment and its influence when studying effectiveness. Human service organizations, particularly voluntary agencies, are highly dependent on their environment not only for many of their financial and human resources but also, for goal setting as well as assessments of effectiveness. It seems logical, therefore, that the study of effectiveness of a voluntary organization such as the Canadian Red Cross Blood Transfusion Service must incorporate the significant factors in its environment--donors, clients (hospitals), governments--since the success of this organization is, for the most part, entirely dependent upon its relationships with these groups.

There is need for further empirical research into the study of organizational effectiveness in human service agencies, particularly voluntary organizations such as the Red Cross. This present study, the methodology of which will be discussed in the following chapter, attempts to make a contribution towards meeting that need.

CHAPTER III

METHODOLOGY

Introduction

The review of the literature has emphasized that the importance of the human service organization's environment should not be overlooked since the organization's success (or failure), may be dependent upon its relationships with groups in its environment. The purpose of this investigation was to measure perceptions of Edmonton BTS Centre performance among four different groups in its environment: donors, non-donors, hospital blood banks, and BTS staff. These groups were selected on the basis that their participation (or lack of it), would ultimately determine not only the nature of the Red Cross Blood Program, but the success of it as well.

The purpose of this chapter is to present and discuss the research methodology used in the study. Mail surveys were used to measure the perceptions of the four groups of respondents on a variety of issues relating to organizational effectiveness. The first section discusses the four samples and how they were obtained. The second section discusses the development and content of the four survey instruments while the third and final section deals with the study's attempts to establish the reliability and validity of those instruments.

The Sample

Data collection was conducted in the Edmonton Centre of the Canadian Red Cross BTS between May and October, 1981. It was prolonged due to a lengthy mail strike during the summer months. In spite of the limitations generally associated with studies involving only one organization (Bouchard, 1976; Campbell & Stanley, 1966), the sample choice was restricted to one Centre to control for convenience, cost and accessibility, as well as variations of organizational structure and administrative operations which would have arisen had the other Alberta Centre, in Calgary, been included.

Blood Donors

A stratified random sample (Cohen, 1977; Davis, 1971, Moser & Kalton, 1979; Wright, 1979) of 500 blood donors was selected from the computerized listing of current blood donors. There were approximately sixty thousand blood donors registered and a sample size of 500 was considered more than sufficient to ensure a power (1-B) of 0.8 to detect a small to medium effect size with a significance criterion of α^2=.05 (Cohen, 1977; Welkowitz, Ewen & Cohen, 1976). While a sample size of 500 is larger than required for 1-B=.8, the number was inflated with a view to ensuring an initial response rate large enough to eliminate the necessity for any prompting of respondents after the initial questionnaire had been sent. This was done to control for any costs associated with a follow-up. However, it was recognized that results would necessarily be restricted to generalizing to the cooperative population.

The overall sample was drawn from two strata of distinct donor groups. The size of the sub-samples drawn from each strata was based on the proportion of the donor population in each group. The first group (N=325), included donors who were residents of the City of Edmonton and/or included in the Region I, metropolitan area, blood donor listing. Approximately 65 % of the current blood donor population was included in this group. The second group (N=175), was composed of blood donors residing outside of the Edmonton metropolitan area and included in the Region II listing. This list accounted for the remaining 35% of donors. Region II is serviced by mobile blood donor clinics operated by the Edmonton Centre and generally, not more than four hours away from the Centre. Donors selected from this latter group included residents of Drayton Valley, Fort Saskatchewan, Lamont, Red Deer, Redwater, Smokey Lake and Vegreville. Both groups of donors received the same 39-item questionnaire which was mailed to them with a covering letter outlining the purpose of the study and soliciting their input (see Appendix 2).

Non-Donors

A random sample of 500 non-donors was selected from the Edmonton and Vicinity White Pages (1981). To ensure non-donor status, all names were checked against the current donor records. Whenever names selected from the telephone directory also appeared in the donor registry, further random selections were made until an N of 500 non-donors was attained. All non-donors were sent a 19-item questionnaire accompanied by a covering letter explaining the study and seeking their input (see Appendix 3).

Hospital Blood Banks

The entire population of hospitals served by the Edmonton Centre BTS was included in the survey. Blood Bank Directors in a total of 92 hospitals received a letter outlining the purpose of the study which was accompanied by a 72-item survey questionnaire which they were asked to complete (see Appendix 4). Eighty-three of these hospitals were in the Province of Alberta while the remaining nine were in British Columbia (3), Saskatchewan (2), and the Northwest Territories (4).

The Edmonton Centre

All full-time and part-time permanent staff (N=81), were included in the survey. Specifically, the entire population of administrative, laboratory, nursing, transport, and clerical personnel were selected to participate in the survey and complete a 71-item questionnaire (see Appendix 5). Each permanent staff member received a letter and questionnaire which was distributed with the monthly paycheque. The letter explained the study and asked employees to participate through completion of the questionnaire.

Development of Survey Instruments

Four separate survey questionnaires were developed to measure the overall performance of the Edmonton Centre BTS from the perspective of four groups--donors, non-donors, hospitals, Centre staff.

The questionnaires were developed according to two principal objectives: (1) to obtain information relevant to the purposes of the study, and, (2) to collect information with maximal reliability and validity (Bradburn & Sudman, 1979; Crawford & Feather, 1972; Kerlinger, 1973; Moser & Kalton, 1979; Warwick & Lininger, 1975). Clarity of wording, length, and sequencing of questions in accordance with standards of coherence and logic, were recognized as important factors affecting the overall success of the study (Anderson & Berdie, 1978; Babbie, 1973; Oppenheim, 1966). Other considerations included: can the respondents answer the questions, are the questions double-barrelled, is a response to a particular item likely to bias those following it, is the physical layout of the questionnaire generally attractive to and convenient for the respondents?

In spite of the lack of spontaneity and the fewer opportunities for self-expression, it was decided to use the closed-response format for all questions for three reasons: (1) questions are generally easier to answer, (2) answers are comparable between respondents, and, (3) respondents usually are more willing to answer on sensitive issues by responding to a standard list of items than if they are required to answer an open-ended query (Babbie, 1973; Warwick & Lininger, 1975).

In an attempt to motivate and build the confidence of the respondents, the first part of the questionnaires generally contained items which were of obvious interest to the respondents and relatively easy to answer, while those dealing with more sensitive issues were introduced later. Questions soliciting demographic information were placed at the end to minimize reluctance in answering questions of a personal nature (Babbie, 1973; Warwick & Lininger, 1975). When suitable, Likert-type rating scales were used in an attempt to measure the degree or extent of Edmonton BTS effectiveness, at least as perceived by pertinent particpants in the system (Emmert, 1970; Oppenheim, 1966).

Donor and Non-Donor Questionnaires

The goal of the BTS is that of providing blood and blood products free of charge to all patients in need of them. Two principles underlie this goal: voluntary donations and national self-sufficiency. The Edmonton BTS is responsible for carrying out this mandate through the associated activities of collection, processing and distribution of blood and blood products to the 92 hospitals within its jurisdiction.

In operationalizing the effectiveness of the Edmonton BTS in serving this mandate, from the perspective of the blood donor and non-donor, it seemed appropriate to define effectiveness in terms of the Centre's ability to attract and retain blood donors in order to meet the demands of the hospitals. Therefore, information was obtained from the Red Cross on the various donor recruitment strategies employed by the organization (Condran, Note 4; McGregor, Note 5), and questions were developed to measure donor and non-donor perceptions of the effectiveness of these strategies. Whenever possible, questions used in other studies were adapted and incorporated for use in the questionnaires as appropriate (Jobsen & Schneck, 1980, 1982; Kobie, 1978; Oswalt & Hoff, 1975; Pennings, 1976; Price, 1972a: Schneider, Parkington & Buxton, 1980).

These two questionnaires also attempted to collect information on a number of other aspects of the donor and non-donor populations. Some basic demographic information was sought to assist not only in further describing the donor and non-donor groups, but also to determine if overall ratings of effectiveness varied according to these biographic differences.

In addition, some questions on donor and non-donor motivation were developed as to why individuals donate or do not donate blood (Bartel, Stelzner & Higgins, 1975; Drake, 1977; Liebrecht, 1976; Oswalt, 1977; Titmuss, 1970; Vickers, 1978). Such information also provided a means of studying the relationship between donor and non-donor motivation, recruitment strategies, and effectiveness.

Finally, a number of items were developed to tap donor and non-donor attitudes toward alternative blood banking systems. The purpose in doing this was twofold: (1) strong preferences for alternatives to the BTS could be viewed as indicators of donor and non-donor dissatisfaction with the current system, and, (2) valuable information could be obtained on donor and non-donor willingness to consider blood banking alternatives such as commercial (profit-making) or government controlled systems.

Hospital Questionnaire

Edmonton Centre BTS effectiveness from the perspective of the hospital blood banks was operationalized in terms of the Centre's ability to meet the hospitals' blood and blood product requirements. For this reason, information was obtained regarding: the entire range of products made available to the hospitals by the Red Cross, and the interaction processes between Red Cross and the hospital blood banks, particularly, methods of product distribution and control, and communication patterns. Questions were then developed to measure the hospitals' perceptions of the Edmonton Centre's performance with respect to these factors. As was the case with the donor and non-donor questionnaires, some basic demographic information was sought. In addition, a few items were developed with a view to obtaining information on hospitals' attitudes towards a number of blood banking alternatives. The reasons for doing this were similar to those used for blood donors, namely: strong preferences for alternatives could be viewed as some measure of dissatisfaction with the present system, and valuable information could be obtained on ways in which the hospitals could be served more effectively (from their perspective), than they were at the present time.

BTS Staff Questionnaire

The BTS staff questionnaire was developed with a view to measuring how staff rated Centre performance in meeting the needs of blood donors and hospital blood banks. Where possible, items used in the donor and hospital questionnaires were adapted for use with BTS staff so that between-group comparisons could be carried out. A number of items were also developed to study staff perceptions of Centre relationships with government as well as other parts of the Red Cross, both BTS and non-BTS. Where appropriate, items used in other research were adapted for use in this questionnaire (Cameron, 1978; Georgopoulos & Mann, 1962; Kobie, 1978; Price, 1972a; Schneider, Parkington & Buxton, 1980; Van de Ven & Ferry, 1980). A number of items however, were developed specifically for this study.

Reliability and Validity

Reliability

Generally speaking, reliability refers to consistency and, as such, is a necessary condition in any measurement instrument (Campbell, 1976; Campbell & Fiske, 1959; Gulliksen, 1950; Kerlinger, 1973). It is that part of test variance which is free of measurement error variance and is "dependent upon agreement between two maximally similar methods of measuring that same trait" (Craig, 1975, p. 17). For the purposes of this study, coefficient alpha (Cronbach, 1951) was used as the method for determining internal consistency (reliability). Since the focus of the study was on organizational effectiveness, a high alpha coefficient would imply a unifactoredness to each questionnaire, a necessary condition if, indeed, the construct of effectiveness was being measured. Subprogram Reliability (Hull & Nie, 1979) was used to analyze data obtained from all four questionnaires to obtain overall estimates of reliability.

Validity

Validity is the sufficient condition for a measurement instrument and is defined by Thorndike and Hagen (1961) as "the extent to which a test measures what we actually wish to measure" (p. 160). The literature generally refers to five types of validity: face, content, concurrent, predictive, and construct (Campbell, 1976; Craig, 1975; Ebel, 1972; Mosier, 1967; Thorndike and Hagen, 1961). For the purpose of this study, only the first two will be considered.

Face and content validity "depend on judgements of the acceptability of an instrument in terms of, respectively, the apparent reasonableness of the test, and the degree to which the instrument samples the universe in question" (Craig, 1975, p. 25). Face validity of the questionnaires was addressed through discussions with BDR, BTS and hospital blood bank personnel with subsequent revisions before the questionnaires were administered. As well, during a pretest of the donor questionnaire, respondents were asked to give their reactions to the instrument. These reactions would be used as a basis for any amendments to be made to the questionnaire before its use in the main study.

The blood bank questionnaire was pre-tested in a large urban hospital, again to determine if any changes were required before use in the main study. The remaining two questionnaires were not pre-tested since a number of items were derived either from the donor or hospital blood bank questionnaires, or from other pertinent studies.

Content validity was established in three ways. Firstly, the literature on organizational effectiveness was studied in an effort to obtain information on authorities' judgements about what constitutes effectiveness for any organization regardless of type. As was shown in Chapter II, this review demonstrated that there was little agreement between experts on what constitutes organizational effectiveness and that in all likelihood, determinants of effectiveness are highly organization specific (Steers, 1975). Secondly, a study of the literature on blood transfusion service performance was carried out to identify important variables associated with: (1) effective donor recruitment and retention practices, and, (2) effective blood centre performance both internally with staff, and externally, in the provision of necessary services to hospitals. Finally, each of the test items was reviewed by experts.

In that a possibility existed that each questionnaire was not unifactored, nor for that matter, that organizational effectiveness was a unidimensional construct, the questions were also factor analyzed (Cooley & Lohnes, 1971; Nie _et al_., 1975; Thurstone, 1947; Weiss, 1976) to determine and evaluate the potential construct validity of each questionnaire. Whenever a multidimensional, meaningful solution was derived, items clustering on each factor were subjected to reliability analysis via the model of coefficient alpha. Such reliability coefficients were also adjusted for test length by use of the Spearman-Brown formula (Campbell, 1976; Guilford & Fruchter, 1973; McKennel, 1970).

Statistical Analyses

The data were analyzed using a variety of statistical models including correlation and factor analysis (Glass & Stanley, 1970; Hull & Nie, 1979; Kerlinger, 1973; Nie _et al_.,1975). The results are presented and discussed in Chapters IV and V.

CHAPTER IV

RESULTS AND INTERPRETATION

Introduction

To help estimate the effectiveness of the Edmonton Centre BTS, four distinct groups were surveyed. Contained in Table 2 are the sample sizes of the various groups and the response rates achieved. While separate questionnaires were used for surveying each group, all four instruments were intended to focus on the effectiveness of the BTS Centre. This chapter provides a description of the results of these surveys and discussions of same, and attempts to shed light on the adequacy of the instruments as well as the degree of effectiveness of the Centre itself (in terms of the perspectives of the four respondent groups).

Broadly, this chapter is organized into two major sections: (1) the results for each surveyed group, and, (2) a comparison of ratings among groups. In the first major section, presentation of results for each surveyed group follows a consistent format. First, a demographic description of each group is provided (thereby helping the reader to estimate the adequacy of the survey in terms of the generalizability of the findings to the surveyed populations). Second, an analysis and interpretation of the data in terms of reliability and validity for each survey is provided (thereby estimating the adequacy of the responses that were intended to measure the construct of BTS effectiveness). Finally, for each surveyed group, analyses of stated BTS effectiveness are provided (and the interpretative confidence one can place in these stated opinions is referenced to the degree of generalizability and validity that was established for each surveyed group).

TABLE 2

Response Rates for Survey Questionnaires Used in Study of Edmonton Centre BTS Effectiveness

Survey Group	N of Survey	Number of Completed Questionnaires	Response Rate	Number of Unuseable Questionnaires	Adjusted Population or Sample Size	Adjusted Response Rate
Blood Donor	500[a]	367	73.4%	19[b]	481	76.3%
Non Donor	500[a]	225	45.0%	24[b]	476	47.3%
Hospital Blood Bank	92[c]	74	80.4%	4[d]	88	84.1%
BTS Staff	81[c]	45	55.6%	0	81	55.6%

[a] Sample

[b] Questionnaires returned by Post Office

[c] Population

[d] Questionnaires returned due to lack of recent involvement (within two years) with the Edmonton Centre BTS

Donors

General Characteristics

Three hundred and sixty-seven donors completed and returned the survey questionnaires; a response rate of 76.3% (see Table 2). The sample size obtained was sufficient to ensure a power of 0.80 to detect a small to medium effect size (d = .20 to .30) with $\alpha^2 = 0.05$ (Cohen, 1977). Response rates were similar for both regions: approximately 75% and 78% of donors in Region 1 (Edmonton) and Region 2 (outside Edmonton) respectively, returned completed questionnaires. The majority of respondents were male, between the ages of 46 and 60 years, and had completed a high school education. The blood type of respondents was distributed across all types with the majority having A positive or O positive blood. A more detailed breakdown of the demographic characteristics of the 367 donor respondents is presented in Table A. This information, when compared to the known information about the Edmonton Centre donor population, supports the contention that this survey group is indeed a representative sample and that the results of this survey can, therefore, be generalized to the entire donor population.

Reliability and Validity

The overall alpha coefficient for the first 38 items was 0.686 (items 39 to 43 were excluded as they related to demographic information). This relatively low value was not surprising in light of the presumed multi-dimensional nature of organizational effectiveness (Campbell, 1977; Dubin, 1976; Schneider, Parkington & Buxton, 1980) which the questionnaire had been designed to measure.

The apparent multi-dimensionality of these items was given further support when responses were factor analyzed and three factors were identified. Items which loaded on each factor had respectively, alpha coefficients of 0.981, 0.837 and 0.915, when adjusted for test length by the Pearson-Brown formula (Guilford & Fruchter, 1975; McKennell, 1970).

While a variety of factor analytic rotations were done, an orthogonal varimax solution as shown in Table B, accounted for more variance than other solutions and provided a clearer interpretation. The three resulting factors (items having factor loadings greater than or equal to 0.350 on any one factor are underlined) were those included in the calculation of the separate alpha coefficients discussed previously.

The interpersonal dimension, Factor 1, concerned the relationships between BTS staff and blood donors. Five items loaded highly on this factor, all of which related to the extent to which specific interpersonal characteristics were exhibited by staff in their dealings with donors: dependability (item 23), efficiency (item 24), helpfulness (item 21), courtesy (item 20), and competence (item 22).

Factor 2 had seven items with factor loadings greater than 0.350 and was labelled Operational. Items loading on this operational factor were considerably lower than those loading highly on Factor 1. Items in this factor generally focused on the degree of donor satisfaction with specific Red Cross blood collection activities and policies: the establishment and maintenance of blood donor clinics at suitable locations for donors and ensuring that these clinics operate at times that are convenient for donors (items 16, 17 and 18), maintenance of a voluntary blood system (item 29), and Red Cross recognition of donor contributions (item 7). Donor satisfaction with Red Cross operations was also reflected in ratings of overall performance (item 1) and frequency of donations (item 2).

Factor 3, labelled Altruism, had four items with factor loadings greater than 0.350. All four items related to specific altruistic reasons why donors give blood: encouragement from others (item 35), hearing about the need for blood (item 38), in anticipation of future need (item 37), and repayment for blood used (item 34). These four items were considered by Titmuss (1970) to exemplify the altruistic motivations of the voluntary blood donor.

This analysis lends support to the multi-dimensionality of organizational effectiveness. It would appear that BTS effectiveness, when viewed from the perspective of the blood donor, has three dimensions. First, the interpersonal dimension: how BTS personnel relate to and deal with donors. Second, the organizational/operational dimension: the policies and procedures the BTS Centre utilizes to collect blood from donors. Finally, the altruistic dimension: those attitudes and beliefs that the donor holds that motivates him or her to give blood to the Red Cross.

BTS Effectiveness

The overwhelming majority of respondents (95.6%), rated the overall performance of the BTS as good or very good. No respondents gave a poor or very poor rating and, only 3% felt that BTS performance was only fair (see Table 3). A correlation analysis of relationships between these ratings and donors' demographic characteristics indicate that only age ($\underline{r}$ = 0.182) and education ($\underline{r}$ =-0.164) were significantly

TABLE 3

Donor Ratings of Overall BTS Performance

	Respondents (N=367)	
Rating	Number	Percent
Very Good	210	57.2
Good	141	38.4
Fair	11	3.0
Rather Poor	0	0.0
Very Poor	0	0.0
No Response	5	1.4

related at the 0.05 level, to donor ratings of BTS performance (see Table C). Both relationships were weak and interestingly, in the case of education, negative. That is, less educated donors were more likely to rate BTS performance higher than more educated donors.

Correlation analyses were also carried out to determine if there were any significant relationships between donor ratings of overall BTS performance and other, non-demographic variables. Relationships with 25 separate variables were found to have statistically significant Pearson correlation coefficients. These results are presented in Table D. Generally, these relationships were relatively weak (usually positive), with correlation coefficients ranging from $\underline{r} = 0.092$ for donor ratings on the importance of giving blood because its a good thing to do, to $\underline{r} = 0.263$ for donor ratings of satisfaction with Red Cross' recognition of their blood donations. In view of the large number of donors who rated overall BTS performance as good or very good, these weak results were to be expected.

Over 95% of the respondents rated BTS staff as being courteous helpful, competent, dependable and efficient, most of the time or always (see Table 4). A number of statistically significant, although weak, relationships were found between the demographic variables and donor ratings of staff (see Table C). Ratings of staff courtesy, dependability and efficiency were found to be higher among older donors. On the other hand, ratings of staff helpfulness, dependability and efficiency were found to be lower in donors with more formal education. Population and location were also found to be significant variables in donor ratings of staff helpfulness and efficiency. Overall, ratings by rural donors were higher than their urban counterparts.

TABLE 4

Donor Ratings of BTS Staff

Staff Attribute	Percentage of Respondents (N=367)					
	Always	Most of the Time	Sometimes	Hardly Ever	Never	No Response
Courteous	71.9	24.3	2.2	0.3	0.5	0.8
Helpful	68.7	28.3	0.8	0.8	0.8	0.5
Competent	62.9	32.7	2.2	0.5	0.8	0.8
Dependable	68.7	28.6	1.1	0.0	0.8	0.8
Efficient	67.3	27.8	3.0	0.0	0.8	1.1

This result was not entirely unexpected in light of the fact that urban donors have more frequent exposure to BTS personnel--and therefore, more opportunity to observe problems--since clinics are held more frequently in the city. On the other hand, rural donors often express dissatisfaction with the infrequency of blood donor clinics in their local areas. Apparently, however, their dissatisfaction with clinic frequency has little influence on their ratings of BTS personnel.

Another measure of donor satisfaction with the current Red Cross blood banking system, is donor preferences for organizational alternatives. Donors were asked to rate their preference for each of five blood banking options including Red Cross. The results, which are presented in Table 5, demonstrate clearly that Red Cross is the favored option among this group of donors. Options which involved payment of donors were generally opposed although donor payment was considered more acceptable when a non-profit, as opposed to a commercial firm, was involved. Over 50% of the donors also opposed a government blood banking system, however, only 29% opposed blood banking being carried out by a voluntary organization other than Red Cross. These findings suggest that should Red Cross withdraw from the blood banking business, current donors would probably continue to give blood as long as the alternative was non-governmental, non-profit, and based upon a philosophy of altruism.

Correlation analysis showed that age was significantly related to ratings of donor preferences (see Table C) and in most all instances, the younger the donor, the more likely he or she was willing to consider positively, organizational alternatives to Red Cross. This also is borne out by the fact that older donors rated BTS performance

TABLE 5

Donor Preferences for Blood Banking Alternatives

	Percentage of Respondents (N=367)					
Alternative	Strongly Prefer	Moderately Prefer	No Preference	Moderately Oppose	Strongly Oppose	No Response
Red Cross	92.6	5.7	1.4	0.3	0.0	0.0
Government Agency	1.6	12.0	31.3	17.4	37.6	0.0
Profit-Maker with Payment	1.9	0.8	7.1	7.9	82.3	0.0
Other Voluntary Agency (no payment)	6.0	26.4	37.9	11.2	18.5	0.0
Other Voluntary Agency with Payment	2.5	6.5	14.7	13.1	63.2	0.0

more highly than younger donors. This may be an indication of increasing cynicism on the part of the younger population--independent of altruism--which is symptomatic of an erosion of confidence in the effectiveness of governments and other large institutions, particularly those enjoying a monopoly such as the Red Cross BTS. The only exception is the relationship between age and willingness to donate (with payment), to another voluntary agency. Interestingly, in this case, the older donors appear more willing to consider a somewhat modified commercial system than their younger counterparts. This does not necessarily mean that they are less altruistic however, since they, too, are generally opposed to the involvement of commerical, profit making firms.

As another measure of BTS effectiveness, donors were asked to rate the frequency with which they were exposed to six specific donor recruitment strategies. These results are presented in Table 6. Without regard to any particular type of donor, clearly the most frequently observed recruitment techniques were personal notification by Red Cross and locally posted notices. In terms of specific types of donors, the personal contact technique was more frequently observed among females than males, among Region 1 rather than Region 2 donors, and among older rather than younger donors (see Table C). Locally posted notices appeared to have more influence on males, on younger rather than older donors, on more educated donors, and on donors in less populated areas (see Table C).

Though other recruitment strategies--T.V., radio, newspaper, friends/family--were observed less frequently, their utility cannot be overlooked since a third to one half of the donors indicated at least

TABLE 6

Donor Ratings of Frequency of Exposure to BTS Recruitment Strategies

Strategy	Percentage of Respondents (N=367)					
	Very Frequently	Usually	Sometimes	Hardly Ever	Never	No Response
Local Television	3.0	6.8	21.3	24.3	41.7	2.9
Local Newspaper	9.5	16.3	24.8	24.0	23.2	2.2
Radio	14.7	18.5	30.0	13.9	20.4	2.5
Personal Notification by Red Cross	23.2	17.2	13.4	9.5	36.0	0.7
Local Notices	21.8	23.2	23.2	12.3	17.4	2.2
Friends/Family	4.9	10.1	27.5	21.5	33.8	2.2

some exposure to them. Of particular note is the relatively strong relationship between region and exposure to newspaper advertisements/notices (r = 0.524). Clearly, local newspapers are an effective way of reaching non-metropolitan donors.

Donor Motivation

Donors were also asked to rate themselves according to a number of frequently cited reasons as to why people voluntarily give blood. These results, presented in Table 7, suggest that altruism is a key factor in donor motivation since altruistic motives such as "giving blood is good" and "to help others", were rated as important or very important, by over 90% of the respondents. Correlation analysis yielded results which indicated a number of weak, significant relationships between age, sex, education and location, and donor motivation (see Table C). Ratings by female donors on the importance of giving blood because its a good thing to do or because of encouragement from others, were higher than ratings by their male counterparts. In the case of age, younger donors tended to rate the importance of three reasons for giving blood higher than older donors: (1) giving blood is a good thing to do, (2) encouragement from others, and, (3) hear about the need for blood. Insofar as education was concerned, donors with less formal education tended to rate the importance of repayment, higher than more educated donors. Finally, location was also found to be a significant variable accounting for differences in ratings between donors on the importance of a number of reasons for giving blood. Region 2 donors were found to rate the importance of both repayment and future need, higher than Region 1 donors. On the other hand, Region 1 donors were found to rate the importance of Red Cross asking for a don-

TABLE 7

Donor Ratings of Reasons for Giving Blood

	Percentage of Respondents (N=367)					
Reason	Very Important	Important	Neither Important Nor Unimportant	Unimportant	Very Unimportant	No Response
Giving Blood is Good	66.5	30.2	2.5	0.3	0.0	0.5
Rare Blood	14.2	17.4	36.0	13.6	18.3	0.5
Red Cross Asks	17.2	36.2	28.1	10.9	6.8	0.8
Repayment	20.2	18.5	27.2	13.9	19.1	1.1
Encouragement from Others	6.8	15.3	36.5	18.8	22.1	0.5
Help Others	62.4	32.4	3.5	0.8	0.5	0.4
Future Need	57.8	25.3	9.8	3.3	3.8	0.0
Hear About Need	42.0	47.4	7.9	1.1	1.6	0.0

ation, higher than Region 2 donors. This result is consistent with the fact that urban clinics are held more frequently and usually involve notification of all regular, eligible donors on an ongoing basis.

Non-Donors

General Characteristics

Two hundred and twenty five non-donors completed and returned survey questionnaires; a response rate of 47.3% (see Table 2). The sample size obtained was large enough to ensure a power of 0.80 to detect a medium effect size (d = .30) with $\alpha^2 = 0.05$ (Cohen, 1977), provided one can assume that these respondents are similar in their opinions to non-respondents. The majority of respondents were male (63.1%) however, this result was not entirely unexpected since names had been selected from the telephone directory and in the case of families, telephone numbers are usually listed under the head of the household, oftentimes male. The largest percentage of respondents (35.1%), were over 60 years of age and like the donor respondents, the majority had completed high school. A detailed breakdown of the demographic characteristics of the non-donor sample is presented in Table E. These demographic data, in particular the age distribution of non-donor respondents, indicate clearly that this sample, although similar to the donor sample, is not representative of the non-donor population. These survey results must, therefore, be interpreted with caution since the degree of generalizability to the non-donor population is compromised.

Reliability and Validity

The overall alpha coefficient for the first 15 items of the survey questionnaire was 0.637 (as was the case with the donor questionnaire, the demographic items were excluded). Here again, the relatively low value was anticipated since the questionnaire had been designed to measure a multi-dimensional phenomenon.

Support for this multi-dimensionality was provided when responses were factor analyzed and two factors were identified. Items which loaded on each of the two factors has respectively, alpha coefficients of 0.834 and 0.778 when adjusted for test length using the Pearson-Brown formula.

As was the case with the donor survey data, an orthogonally rotated varimax solution yielded the most interpretable solution accounting for the most variance. The two factors are presented in Table F (items having factor loadings of 0.350 or greater, underlined, were those included in the calculation of the individual alpha coefficients discussed previously).

Five items loaded highly on Factor 1, the disincentive dimension. All items related to specific reasons why individuals did not donate blood: inconvenient clinic location (item 8), inconvenient scheduling of clinics (item 12), too much time required (item 9), presence of a medical condition preventing blood donations (item 13), and lack of awareness about clinics (item 14).

The incentive dimension, Factor 2, contained three items with factor loadings of 0.350 or greater. All three items reflected the extent of non-donor awareness of Red Cross donor recruitment strategies: locally posted notices (item 6), friends or family (item 5), and local radio announcements (item 4).

BTS Effectiveness

One key measure of BTS effectiveness is its ability to expand its donor base through the attraction of new donors using a variety of recruitment strategies. Non-donors were asked to rate how frequently they were exposed to various BTS recruitment campaigns for blood. Low frequency ratings could be viewed as a measure of ineffective coverage; high frequency ratings could also be viewed as a measure of ineffectiveness since while frequent, they apparently had little effect in motivating non-donors to become donors.

An examination of the ratings presented in Table 8 shows that very few non-donors are exposed to BTS advertising in any significant way. Correlation analysis, the results of which are presented in Table G, found only four relatively weak and negative significant relationships between non-donor ratings of frequency of exposure to two recruitment strategies--local T.V. and locally posted notices--and selected demographic characteristics. Local television campaigns were rated more frequently by less educated non-donors in less populated areas while locally posted notices were rated more frequently by younger donors in less populated areas. These findings would appear to suggest that if the Red Cross hopes to attract new donors from this non-donor population, more intensive recruitment efforts may be required. As well, the content of the various promotional materials may have to be revised to incorporate specific strategies appealing directly to the generally unmotivated non-donor.

Non-Donor Motivation

The non-donor respondents were asked to rate themselves relative to eight commonly cited reasons as to why individuals do not give blood (Drake, 1977; Liebrecht, 1976; Oswalt & Hoff, 1975). The results, which are presented in Table 9, indicate that for the large majority of

TABLE 8

Non-Donor Ratings of Frequency of Exposure to BTS Recruitment Strategies

	Percentage of Respondents Exposed to Various BTS Recruitment Strategies (N=225)					
Strategy	Very Frequently	Usually	Sometimes	Hardly Ever	Never	No Response
Local T.V.	3.6	6.7	44.9	32.9	11.6	0.4
Local Radio	7.1	15.1	46.2	24.9	6.2	0.4
Friends/Family	1.3	2.7	21.8	52.9	21.3	0.0
Local Notices	7.6	14.2	43.6	26.7	8.0	0.0

TABLE 9

Non-Donor Ratings of Reasons for Not Giving Blood

	Percentage of Respondents (N=225)					
Reason	Very Important	Important	Neither Important Nor Unimportant	Unimportant	Very Unimportant	No Response
Never Asked	4.9	12.4	34.2	14.7	31.1	2.7
Location Inconvenient	8.9	29.3	26.7	12.9	2.0	2.2
Too Much Time	2.7	16.4	23.6	26.2	28.4	2.7
Religious Beliefs Forbid	1.3	0.9	6.2	9.3	79.6	2.7
Fear of Needles	10.2	6.7	20.9	21.3	37.8	3.1
Time of Day Inconvenient	12.9	23.6	25.8	12.0	23.6	2.2
Medical Condition	24.4	7.6	8.0	10.2	46.7	3.1
Never Hear About Clinics	4.0	16.9	27.6	16.9	30.7	4.0

these non-donors, most of the reasons are not particularly relevant. In fact, only three reasons--inconvenient location, inconvenient time and medical condition--were rated by more than 30% of the respondents as critical in their decisions to not give blood. Clearly, further study is required to identify other reasons why non-donors do not give blood, perhaps focusing more on lack of altruism rather than organizational/operational deficiencies such as clinic scheduling, which may identify greater explanatory behavior of non-donors.

Correlation analysis identified a number of significant relationships between the importance of the three reasons cited above and demographic characteristics of age, sex, and education (see Table G). While the relationships with both sex and education were quite weak, those with age were less so and warrant some further discussion here. Younger non-donors tended to rate the importance of both inconvenient clinic scheduling and location higher than their older counterparts; $\underline{r} = -0.360$ and $\underline{r} = -0.266$ respectively. These results are not surprising since the majority of clinics take place during the day when large numbers of younger people are either working or attending school and therefore are less able to attend. As well, due to space and technical requirements, clinics are not frequently held at places of employment or in schools. People can, therefore, more easily make excuses to not attend since clinics may not, in their estimation, be easily accessible. In the case of medical condition, older non-donors tended to rate this as more important than younger non-donors ($\underline{r} = 0.355$). Again, this result was to be expected since the incidence of medical conditions preventing blood donations would logically be higher in older age groups.

Finally, non-donors were also asked if they would give blood if they were paid. While the overwhelming majority, (72.6%) indicated that they would not, correlation analysis demonstrated that younger non-donors were significantly less opposed to this strategy than their older counterparts ($r = -0.333$). These results suggest that for this particular group of non-donors, a policy of free donations, such as that maintained by the Red Cross, does not serve as a major deterrent. However, it may also be true that the introduction of a system of donor payment would serve as a motivator to some younger non-donors.

Hospital Blood Banks

General Characteristics

Completed questionnaires were returned from 74 hospitals; an adjusted response rate of 84.1% (see Table 2). A variety of hospital personnel completed the questionnaire on behalf of their institution, such as, administrators, laboratory technologists, physicians, and nurses. The majority of these individuals (63.5%) had held their position for more than six years and were generally, quite familiar with the current system of blood banking operated by the Red Cross Blood Transfusion Service. Hospitals ranged in size from less than 25 beds to more than 500 beds. All large hospitals, which are the major users of Red Cross BTS products, responded to the survey. Hospitals not responding were either marginal or not current participants in the system.

The extent of hospitals' involvement in blood banking activities ranged from less than 25 patients transfused per year to more than 1000. A wide range of products were used in varying amounts with few reported transfusion reactions. More specific information on the respondents and their hospitals' activities is presented in Tables H and I.

Reliability and Validity

The reliability (alpha coefficient) for items one through 58 and 61 through 64 of the survey questionnaire (demographic items being excluded) was 0.632. Corresponding alpha coefficients for the items loading on each of the two factors emerging through factor analysis--Performance and Responsiveness--were 0.916 and 0.897 respectively, after adjustment for test length was done using the Spearman-Brown formula. The relatively low overall alpha coefficient coupled with the high coefficients obtained for the two factors, lends support to the contention that organizational effectiveness is a multi-dimensional construct.

The orthogonal, varimax rotated solution for the 62 items is presented in Table J. Items having factor loadings of 0.350 or greater are underlined. As before, this solution accounted for more variance than other solutions and provided the clearest interpretation.

Eighteen items loaded well on Factor 1, the performance dimension, and all such items referred to specific aspects of BTS Centre performance as they related to meeting the requirements of hospitals: effectiveness of and satisfaction with, BTS Centre performance (items 1 to 4, 12, 26, 27, 57 and 58); frequency with which Red Cross initiated communication with the hospital (item 23); and interpersonal characteristics exhibited by BTS personnel in their dealings with the hospitals (items 28 to 32). Hospital satisfaction with BTS Centre performance was also reflected by the existence of BTS Centre related activities within the hospitals themselves such as crossmatching and bleeding (items 33 and 35), as well as the nature of supervision provided in the hospitals' blood banking facilities (item 63).

Factor 2, the responsiveness dimension, also had 18 items which loaded moderately well. All items on this factor related to BTS ability or willingness to meet hospital requirements and the manner in which this was done: program delivery options (items 13 to 16, 34 and 61); frequency of communication (items 20 and 21); and product availability (items 42 to 46, 48 to 50, 53 and 54).

If the questionnaire has successfully captured and measured the universe of effectiveness, then it can be argued that from the hospital's perspective, BTS effectiveness is composed of two dimensions: the performance dimension and the responsiveness dimension.

BTS Effectiveness

Overall BTS performance was rated as good or very good by over 97% of the hospitals (see Table 10). None of the hospitals gave a poor or very poor rating. In addition to this overall assessment, four specific aspects of Centre performance--product quality, product quantity, emergency performance, transportation problems--were also rated favorably. Over 98% of the respondents were moderately or very satisfied with product quality. Ratings of satisfaction with respect to product quantity and emergency performance were also high but considerably less so than those for product quality. Almost 69% of the hospitals were very satisfied with the quantity of products they received; less than 10% gave fair or poor ratings. Insofar as emergency performance was concerned, 66.2% of the hospitals were very satisfied while only 12.2% felt that the service was fair or poor. The area where ratings were least favorable was product transportation.

TABLE 10

Hospital Ratings of BTS Centre Performance

Rating	Overall	Products and Supply	Service and General Administration
	Respondents (N=74)		
Very Good/Very Favorable	48 (64.9)[a]	59 (79.7)	42 (56.8)
Good/Moderately Favorable	24 (32.4)	14 (18.9)	22 (29.7)
Fair/Favorable	2 (2.7)	0 (0.0)	8 (10.8)
Rather Poor/Moderately Unfavorable	0 (0.0)	1 (1.4)	2 (2.7)
Very Poor/Very Unfavorable	0 (0.0)	0 (0.0)	0 (0.0)

[a] Numbers in parentheses indicate percentages

Less than 9% of the hospitals had never experienced any problems while 52.7% indicated that such problems were encountered at least some of the time. However, given the very large geographic area that the Edmonton Centre is required to service, and the reliance (in some cases), upon public transporation for product delivery, some problems are to be expected. In spite of these problems however, 94.6% of the respondents indicated that they did not wish to change from Red Cross to another supplier.

Respondents were also asked to rate BTS performance from two specific perspectives: products and supply, and service and general administration. Almost 80% of the respondents rated products and supply performance as very good while less than 57% gave administrative performance a similar rating. Generally however, both perspectives of performance were rated highly but, products and supply performance was overall, rated better than service and general administrative performance (see Table 10). Clearly, while the hospitals appear to have few problems with the products supplied by the BTS, some are not as satisfied with the way in which the service is administered.

This contention is given further support when one considers the hospitals' ratings of BTS effectiveness in relation to these same two perspectives (see Table 11). While ratings are still generally quite high, there is evidence of a distinct shift to a less favorable assessment, particularly with respect to administration and policy matters, with almost two thirds of the respondents rating effectiveness in this area as being at best, moderate. Table 12 shows the Pearson correlation coefficients for the interrelationships among the ratings on these five performance/effectiveness items. It is worthy of note

TABLE 11

Hospital Ratings of BTS Centre Effectiveness

	Percentage of Respondents (N=74)				
Effectiveness Variable	Very Effective	Moderately Effective	Neither Effective Nor Ineffective	Moderately Ineffective	Very Ineffective
Products and Supply	56.8	33.8	5.4	4.1	0.0
Administration and Policy	33.8	41.9	18.9	4.1	1.4

TABLE 12

Pearson Correlation Coefficients[a] Between Performance and Effectiveness Variables: Hospitals

(N=74)

Item	Variable	BTS Overall Performance	BTS Effectiveness Products/Supply	BTS Effectiveness Administration/ Policy	Favorable Towards BTS re Products/Supply	Favorable Towards BTS re Service/General Administration
12	BTS Overall Performance	1.000	0.491	0.412	0.473	0.586
26	BTS Effectiveness: Products/Supply		1.000	0.644	0.144[b]	0.494
27	BTS Effectiveness: Administration/Policy			1.000	0.546	0.614
57	Favorable towards BTS re Products/Supply				1.000	0.604
58	Favorable towards BTS re Service/General Administration					1.000

[a] Coefficients were significant at the 0.05 level or less unless otherwise indicated

[b] Not significant at the 0.05 level

that all items were highly intercorrelated with the exception of the relationship between ratings of BTS effectiveness and favorability on product/supply matters. In this latter instance, no significant relationship between the two ratings was demonstrated. Clearly then, hospital satisfaction (or favorability) with BTS service and general administration was the most consistent, and in the majority of cases the best, predictor of ratings for all other aspects of performance and effectiveness.

Correlation analysis was also carried to identify any statistically significant relationships between hospital ratings of BTS performance and effectiveness and other variables. As Table K demonstrates, a very large number of significant relationships were found. However, for the purposes of this discussion, only those relationships having Pearson correlation coefficients of 0.400 or greater (underlined) will be considered in any detail.

Ratings of satisfaction with respect to product quantity were highly predictive of all five performance/effectiveness items; the more satisfied hospitals were with the quantity of products they received from the BTS Centre, the more favorably disposed they were towards the Red Cross. When one observes the hospital ratings of product availability, another measure of quantity satisfaction, it is apparent that hospitals experience few problems in getting the amount of product they want when they want it (see Table 13). It is also evident however, that a large number of hospitals--those involved in very limited blood banking activities--make few or no requests for a number of the blood products. Yet, those marginal and non-users still tended to rate BTS performance and effectiveness highly. Clearly, the ability

TABLE 13

Hospital Ratings of Product Availability

	Percentage of Respondents (N=74)					
	Requested					Never Requested
Product	Always	Usually	Sometimes	Hardly Ever	Never	
Whole Blood	46.5	14.0	6.9	20.9	11.7	41.9
Concentrated Red Cells	73.0	27.0	0.0	0.0	0.0	0.0
Stored Plasma	70.8	20.8	8.4	0.0	0.0	67.6
Fresh Frozen Plasma	73.0	21.6	5.4	0.0	0.0	50.0
Platelets	42.9	46.4	7.1	0.0	3.6	62.2
Platelet Concentrate	31.8	50.0	13.6	0.0	4.6	70.3
Cryoprecipitate	72.7	22.7	0.0	0.0	4.6	70.3
Serum Albumin 5%	65.5	20.7	10.3	3.5	0.0	60.8
Serum Albumin 25%	81.3	18.7	0.0	0.0	0.0	35.1
Factor VIII	50.0	33.4	8.3	0.0	8.3	83.8
Factor IX	63.6	27.3	0.0	0.0	9.1	85.1
Immune Serum Globulin	80.0	16.0	0.0	0.0	4.0	66.2
RH Immune Globulin	88.2	10.3	0.0	0.0	1.5	8.1
Hepatitis Immune Globulin	52.9	35.3	5.9	0.0	5.9	77.0
Vaccina Immune Globulin	28.6	43.0	13.7	0.0	13.7	90.5

of the BTS Centre to provide blood and blood products in the quantity and variety requested by hospitals is a key variable in hospitals' perceptions of BTS performance and effectiveness. The ability to provide these products when hospitals request them is also an important factor as is demonstrated by the fact that ratings of emergency performance are also significantly and positively related to all five performance variables. Ratings of product quality are also significant predictors of BTS performance although interestingly, somewhat less than either product quantity or emergency performance. Also worthy of note is the relationship between communication initiated by Red Cross and hospital ratings of BTS effectiveness, in particular, effectiveness with respect to administration and policy ($\underline{r} = 0.435$). Hospitals tended to rate BTS effectiveness more positively when communication was initiated by Red Cross.

Another important area to be considered is the relationship between performance and effectiveness ratings and ratings of BTS staff. Generally, staff ratings were high for all five staff attributes with over 90% of the respondents rating staff in the top two categories (see Table 14). In addition, all five staff ratings were found to be highly positively correlated with performance and effectiveness ratings (see Table K). These data suggest that the manner in which BTS personnel are perceived to relate to hospital blood bank personnel, may influence the way in which hospitals evaluate the performance and effectiveness of the BTS.

Of particular interest to this author were a number of highly significant negative relationships which were demonstrated between some of the variables (particularly the number of patients and units trans-

TABLE 14

Hospital Ratings of BTS Staff

Staff Attribute	Percentage of Respondents (N=74)					
	Always	Most of the Time	Sometimes	Hardly Ever	Never	No Response
Courteous	55.4	39.2	5.4	0.0	0.0	0.0
Helpful	66.2	27.0	6.8	0.0	0.0	0.0
Competent	70.3	25.7	4.1	0.0	0.0	0.0
Dependable	66.2	29.7	4.1	0.0	0.0	0.0
Efficient	60.8	31.1	8.1	0.0	0.0	0.0

fused), and ratings of BTS performance and effectiveness. The more patients and units transfused, the less favorable the rating. To some extent however, this is understandable when one considers that inner flaws or problems are not often apparent to the casual or infrequent observer but often become so as a relationship intensifies. That is to say, the probability that problems will arise or become apparent probably increases in proportion to the volume and complexity of blood banking activities that a hospital undertakes. This is given further support by the fact that hospitals having their own separate blood banks and carrying out their own crossmatching--and therefore less reliant upon Red Cross to do these things for them--tended to rate BTS performance and effectiveness less favorably.

Another measure of hospital satisfaction with the current Red Cross blood banking system is the willingness to consider or desire organizational alternatives. First, respondents were asked to rate their preferences for five blood banking alternatives. The overwhelming majority of respondents rated the Red Cross system as their number one preference while a commercial system was the most strongly opposed (see Table 15). A government agency, or a hospital-based system or a combination of a variety of systems, were also opposed but somewhat less strongly. When a correlation analysis was carried out (see Table K), significant positive relationships were found to exist between ratings of preference for Red Cross and all five performance variables. These results were not unexpected since it could be argued that hospitals preferring Red Cross would tend to do so because they felt that it was doing a relatively good job.

Hospitals were also asked to rate their preferences for four

TABLE 15

Hospital Preferences for Blood Banking Alternatives

Alternative	Percentage of Respondents (N=74)					
	Strongly Prefer	Moderately Prefer	No Preference	Moderately Oppose	Strongly Oppose	No Response
Government Agency	2.7	12.2	21.6	13.5	50.0	0.0
Red Cross	68.9	29.7	0.0	0.0	1.4	0.0
Commercial System	0.0	0.0	4.1	17.6	78.4	0.0
Hospitals	1.4	5.4	23.0	17.6	52.7	0.0
Variety of Systems	0.0	8.1	16.2	18.9	56.8	0.0

regionalization options. While a regional BTS was rated more favorably than the other three options, both the regional crossmatching and the local storage and crossmatching options also received considerable support, although this latter option was also viewed with a considerable amount of disfavor (see Table 16). Ratings of preference for a regional BTS were also found to be significantly positively related to ratings of BTS performance (see Table K) particularly, overall performance (_r_ = 0.408) and favorableness with respect to service and general administration (_r_ = 0.497). These results, when coupled with hospital ratings of organizational alternatives suggest that while Red Cross is the preferred organization to administer the blood program, the way in which it is currently organized may not be the most effective, insofar as the hospitals are concerned. A less centralized approach would appear to be more favorable.

BTS Staff

General Characteristics

Forty-five of the 81 full and part-time BTS staff completed and returned the survey questionnaire; a response rate of 55.6% (see Table 2). This low response rate may limit the generalizability of the survey results. The majority of respondents, (88.9%), were female, between the ages of 18 and 29 years, who were college or university graduates and who had been employed with the Edmonton Centre BTS for less than six years. Respondents were distributed across all positions with the majority (51.1%), employed in the laboratory setting. A specific breakdown of the demographic characteristics of the BTS staff is presented in Table L.

TABLE 16

Hospital Preferences for Regionalization Options

Option	Percentage of Respondents (N=74)				
	Very Favorable	Moderately Favorable	No Better or Worse than Present	Moderately Unfavorable	Very Unfavorable
Regional BTS	39.2	33.8	18.9	2.7	5.4
Regional blood banks with hospital storage	8.1	24.3	47.3	13.5	6.8
Regional crossmatching	23.0	28.4	29.7	8.1	10.8
Local storage and crossmatching	20.3	17.6	12.2	23.0	27.0

Reliability and Validity

The alpha coefficient for the first 64 items of the survey questionnaire (demographic items 65 through 71 being excluded), was 0.925. While this high value was not expected and suggests that the questionnaire may not have addressed adequately the multi-dimensional nature of organizational effectiveness, it may also be indicative of the fact that for BTS personnel, all aspects of organizational effectiveness are highly interrelated.

Three factors were identified through the application of factor analysis although two were relatively weak. Alpha coefficients of 0.951, 0.961, and 0.908 respectively, were obtained when the Spearman-Brown formula was used to adjust for a common test length of 64 items and applied to those items loading well (0.350 or greater), on a single factor.

As was the case with the other three questionnaires, an orthogonal, varimax rotation yielded the most interpretable solution accounting for the most variance (see Table M). Factor 1, the performance dimension, contained 29 items which loaded well, all related to aspects of BTS performance in meeting its mandate for the collection, processing and distribution of blood and blood products: relations with other groups (17 items: 1, 4 to 8, 14 to 20, 33, 34, 55 and 59); ability to meet emergency demands (item 3); product quality (item 10); effectiveness of donor recruitment strategies (items 27 and 28); goal identification and achievement (items 39 to 42); and specific aspects of Centre performance (items 60 to 63).

Fifteen items loaded well on Factor 2, the autonomy dimension. Items in this factor focused on matters affecting Centre autonomy:

external influences on Centre operations (11 items: 12, 13, 31, 32, 37, 45, 58, 52 to 54, and 56); the ability of the Centre to influence other groups (items 50 and 51); policies such as donor payment which could restrict Centre autonomy in financial terms (item 21); and ability to acquire sufficient resources (item 10).

Factor 3, which was labelled Constraint, contained nine items. All nine related to matters that restricted the Centre's ability to meet its objectives effectively and efficiently: donor recruitment (items 23 and 24); goal conflict (items 43 and 44); limited independence (items 46 and 49); and relations with the Division and Branch (items 57, 58, and 64).

BTS Effectiveness

BTS personnel were asked to rate four aspects of Centre performance: (1) meeting hospital requirements, (2) meeting unexpected or emergency demands, (3) collection, processing and distribution (products and supply), and (4) general administration. Over 90% of the respondents rated the first three aspects as good or very good however, performance with respect to general administration was not as highly rated, with approximately 80% of the respondents rating performance in the one of the top two categories (see Table 17). Staff were also asked to give their opinions on Centre effectiveness with respect to product quality and quantity, and whether or not they felt that an amalgamation of the BTS and BDR would increase the effectiveness of the Centre's performance. Over 95% of the respondents rated product quality and quantity in the top two categories while 53.3% felt that amalgamation would increase effectiveness.

When a correlation analysis was carried out to identify

TABLE 17

BTS Staff Ratings of BTS Centre Performance

		Percentage of Respondents (N=45)					
Item	Performance Variable	Very Good	Good	Fair	Rather Poor	Poor	No Response
12	Hospital Requirements	44.0	48.9	4.4	2.2	0.0	0.0
3	Emergency Demands	55.6	40.4	4.4	0.0	0.0	0.0
26	Products and Supply	55.6	44.4	0.0	0.0	0.0	0.0
27	General Administration	24.4	57.8	0.0	2.2	2.2	0.0

relationships between the four performance variables--meeting hospital requirements, meeting unexpected or emergency demands, products and supply, general administration--and demographic characteristics, only three significant relationships were found (See Table N). Firstly, position was found to be positively related to ratings of performance in meeting unexpected or emergency demands ($\underline{r} = 0.265$) and ratings of general administrative performance ($\underline{r} = 0.295$). In these two instances, employees working in administration tended to rate performance higher than employees in other positions. The latter finding is understandable in that administrative personnel are probably least likely to criticize their own performance and in fact, may not even be aware that any problems exist. Secondly, length of employment with the BTS was found to be negatively correlated with ratings of performance with respect to products and supply ($\underline{r} = -0.273$). In this instance, the longer the employee had been with the Red Cross, the more critical he/she was of its performance. To some extent, this finding was not unexpected since new employees probably would not be aware of many of the performance problems which might exist. On the other hand, it could also be argued that long-time employees often fail to see many problems simply because they have been in the system for such a long period of time.

The Pearson correlation coefficients for relationships between the four ratings of performance are shown in Table 18. Three of the relationships were found to be significant and have been underlined. First, ratings of performance in meeting hospital requirements were found to be positively related to ratings on the Centre's ability to meet emergency demands ($\underline{r} = 0.445$). It should be noted however, that

TABLE 18

Pearson Correlation Coefficients Between Performance Variables: Ratings by BTS Staff

(N=45)

Item	Variable	Performance: Hospital Requirements	Performance: Emergency Demands	Performance: Products and Supply	Performance: General Administration
2	Performance:				
	Hospital Requirements	1.000	0.445	0.141[b]	0.081[b]
3	Performance:				
	Emergency Demands		1.000	0.320	0.187[b]
60	Performance:				
	Products and Supply			1.000	0.357
61	Performance:				
	General Administration				1.000

[a] Coefficients were significant at the 0.05 level or less unless otherwise idicated

[b] Coefficients not significant at the 0.05 level

emergency demands for blood and blood products generated by hospitals are an integral part of the Centre's role in meeting hospital requirements and so, the positive correlation between the two was to be expected. Second, performance in meeting emergency demands is closely allied to the Centre's ability to collect, process and distribute products in sufficient quantities that all demands, anticipated or emergency, can be met. The positive correlation between these two items ($\underline{r}$ = 0.320) therefore, is also understandable. Finally, ratings of performance with respect to products and supply were found to be significantly related to ratings of performance with respect to general administration ($\underline{r}$ = 0.357). The relationship between these two ratings could be due to two factors. Firstly, the manner in which the program is administered would have an effect on the Centre's ability to meet its collection and distribution responsibilities. Secondly, these two items appeared consecutively in the questionnaire and respondents may have failed to discriminate between the two.

Correlation analysis was carried out to identify any statistically significant relationships between the four performance ratings and other dependent variables. The results, which are contained in Table O, indicate that a relatively large number of significant relationships were identified. However, for the purposes of this discussion only those relationships having Pearson correlation coefficients of 0.400 or greater, underlined, will be discussed.

Four items were found to be significantly and positively related to ratings of performance in meeting hospital requirements: quantity effectiveness ($\underline{r}$ = 0.607), staff courtesy in dealing with donors ($\underline{r}$ = 0.412), current government influence on Red Cross ($\underline{r}$ = 0.434), and current Centre influence in the National BTS (r = 0.468). All these items related to matters affecting, either positively or negatively, the Centre's ability to meet its hospital commitments. For example, courtesy in dealing with donors is essential in view of the fact that donors are the source of BTS products and good staff-donor relations increase the chances that donors will continue to give in the future, thereby maintaining a good level of product supply. Two of the relationships are particularly interesting, specifically, high performance ratings were associated with high ratings of both perceived current government influence and current Centre influence on the National BTS. In the first instance, it would appear that while the Red Cross goes to great lengths to maintain its independence from the government, there is a recognition that government involvement is necessary. This is understandable since as was pointed out the Chapter 1, government support (particularly in terms of dollars) is significant. In the second instance, there appears to be some support for the contention that better Centre performance is associated with a more democratic (or participative) National administration.

One item, product quality, was found to be significantly and positively related to ratings of emergency performance (r = 0.420). The reason for the relationship between these two is unclear. It may be however, that high quality products are a critical requirement in emergency situations more so than at other times when perhaps, more intensive and/or elaborate safeguards can be applied.

Insofar as ratings of performance with respect to product and supply matters were concerned, five items were found to be significantly and positively related (with correlation coefficients of 0.400 or greater): staff competency in dealing with hospital personnel (r = 0.449), staff helpfulness (r = 0.454), dependability (r = 0.459) and efficiency (r = 0.559) in dealing with donors, and the effectiveness of donor recruitment via local newspapers (r = 0.429). These latter four relationships are understandable when one considers that they all relate to ways in which the Red Cross attracts and retains the donors who in turn, provide the products that are supplied to the hospitals.

Finally, eleven items were found to be significantly and positively related (and having correlation coefficients of 0.400 or greater), to ratings of general administrative performance. These were: staff efficiency in dealing with donors (r = 0.452), the effectiveness of donor recruitment via local radio (r = 0.412), BTS-government relations (r = 0.571), BTS responsiveness to government concerns (r = 0.616), the extent to which CRCS goals are identified (r = 0.418), the extent to which National BTS goals are identified (r = 0.463), the extent to which BTS Centre goals are identified (r = 0.499), the extent to which Centre goals are achieved (r = 0.645), Centre-National BTS relations (r = 0.423), Centre-union relations (r = 0.538), and satisfaction with local administration (r = 0.619). The reasons behind the relationships between the first two items and ratings of general administrative performance are not clear. However, the remaining nine items all focus on administrative, rather than product, issues and so their relationships to ratings of administrative performance were to be expected. With respect to these latter items, it is particularly interesting to note that a number of them deal with organizational goals; both goal clarity and goal achievement. In these instances, employees who rated goal clarity and achievement highly, also tended to rate general administrative performance in the same way.

In an attempt to understand other aspects of BTS performance, Centre staff were asked to rate their relationships with blood donors and hospital blood bank personnel. They were also asked to rate the effectiveness of selected donor recruitment strategies. Insofar as relationships with donors were concerned, over 90% of the respondents rated each of the five attributes in the top two categories (see Table 19). Relationships with hospital blood bank personnel received similar ratings (see Table 20). There were a few significant, although weak, relationships between these ratings and employees' demographic characteristics (see Table N). Education was found to be negatively related to ratings of staff courtesy in dealing with hospital personnel ($\underline{r}$ = -0.288), positively related to ratings of staff courtesy in dealing with donors ($\underline{r}$ = 0.282), and negatively related to ratings of staff efficiency in dealing with donors ($\underline{r}$ = -0.315). In addition, position was found to be positively related to ratings of staff efficiency in dealing with hospital personnel ($\underline{r}$ = 0.288). That is to say, administrative personnel tended to rate this particular item more highly than other BTS personnel.

Staff ratings of the effectiveness of current donor recruitment strategies are presented in Table 21. Over 65% of the respondents rated all the strategies as at least, moderately effective. This is in contrast to ratings of the effectiveness of past strategies where only 53.3% of the respondents felt that they were moderately or very effective while 46.7% felt they either had no effect or were ineffective. As shown in Table 21, local television and radio as well

TABLE 19

BTS Staff Ratings: Donor-Staff Relationships

Staff Attribute	Percentage of Respondents (N=45)					
	Always	Most of the Time	Sometimes	Hardly Ever	Never	No Response
Courteous	40.0	55.6	2.2	0.0	2.2	0.0
Helpful	40.0	57.8	0.0	2.2	0.0	0.0
Competent	35.6	57.8	6.7	0.0	0.0	0.0
Dependable	33.3	64.4	2.2	0.0	0.0	0.0
Efficient	33.3	62.2	4.4	0.0	0.0	0.0

TABLE 20

BTS Staff Ratings: Hospital-Staff Relationships

Staff Attribute	Always	Most of the Time	Sometimes	Hardly Ever	Never	No Response
	Percentage of Respondents (N=45)					
Courteous	31.1	57.8	6.7	0.0	0.0	4.4
Helpful	44.4	48.9	0.0	0.0	2.2	4.4
Competent	37.8	55.6	2.2	0.0	0.0	4.4
Dependable	44.4	51.1	0.0	0.0	0.0	4.4
Efficient	31.1	60.0	2.2	2.2	0.0	4.4

TABLE 21

BTS Staff Ratings: Effectiveness of Donor Recruitment Strategies

	Percentage of Respondents (N=45)					
Strategy	Very Effective	Moderately Effective	Neither Effective nor Ineffective	Moderately Ineffective	Very Ineffective	No Response
Local TV	64.4	26.7	4.4	4.4	0.0	0.0
Local Radio	55.6	33.3	8.9	2.2	0.0	0.0
Local Paper	13.3	55.6	22.2	8.9	0.0	0.0
Notices	15.6	51.1	24.4	6.7	2.2	0.0
Personal notification by CRCS	64.4	24.4	8.9	2.2	0.0	0.0

as personal notification by Red Cross were rated by over 85% of the respondents as very effective with newspapers and locally posted notices receiving considerably less support. Here again, correlation analysis yielded few significant relationships between these ratings and employees' demographic characteristics (see Table N). Younger staff tended to rate the effectiveness of local television more favorably than older staff (r = -0.406), while long time staff tended to rate the effectiveness of local television (r = -0.491), local newspapers (r = -0.349) and locally posted notices (r = -0.286) less favorably than their more recently employed counterparts.

Group Comparisons

Donors and Non-Donors

Donors and non-donors were compared on their exposure to a variety of recruitment strategies and their reactions to a policy of donor payment. The donor questionnaire did not contain a specific item, such as the one included in the non-donor questionnaire, asking the respondent if he/she would donate blood if paid to do so. This omission was deliberate and based upon a specific request from the Red Cross. The reason for their request stemmed from the fact that at the time the study was being carried out, there was considerable press about the role of commercial blood banking firms in Canada and their possible competition with Red Cross. Large numbers of donors were expressing concerns about what might happen to the voluntary system and it was felt that to include a specific question on donor payment (which is the key factor in the commercial blood banking system) would only serve to increase donor concerns and might even result in a loss of donors. For the purposes of comparison however, any donor who responded positively or neutrally to either of the two blood banking alternatives involving donor payment (see Table 5), was considered equivalent to a non-donor who responded yes to item 15: Would you donate blood if you were paid for it? All other responses were rated as negative.

Both donors and non-donors generally appeared to reject the idea of donor payment although as was pointed out earlier, both older donors and younger non-donors appeared somewhat less opposed to this strategy. However, these results suggest that any change in Red Cross' current policy, such as the establishment and implementation of a donor payment system, may not necessarily bring about an increase in the donor population.

As was pointed out in earlier sections of this chapter, overall, donors appeared to be more aware of the various recruitment strategies than non-donors. However, both groups seemed to agree that local television was the least observed strategy. Since most of these strategies are directed to both the donor and non-donor populations, these results suggest that the frequency with which individuals are exposed to particular strategies may not be as important as the individual's response to these strategies. It also suggests that voluntary donors, because of their unique altruistic qualities, are more aware of recruitment strategies and therefore, more affected by them.

Correlation analysis yielded a number of significant, although weak, relationships worthy of note, between donors and non-donors and four recruitment strategies (see Table P). Donors tended to rate the frequency of local television advertisements lower than non-donors while at the same time, rating the frequency of locally posted notices somewhat higher. Insofar as television is concerned, these results suggest that television advertising is not a particularly effective recruitment strategy since donors observe it somewhat less frequently than all other strategies and non-donors, while tending to rate it more highly, do not appear particularly motivated to give their blood because of it.

Donors and BTS Staff

Donors and BTS staff were compared with respect to three items: (1) ratings of BTS staff, (2) adequacy of Red Cross advertising, and, (3) present donor influence on Red Cross. Both groups of respondents were asked to rate their perceptions of how well staff related to donors in terms of courtesy, helpfulness, competence, dependability and efficiency. As shown in Tables 4 and 19, both groups rated these attributes highly however, there was a distinct shift to less favorable ratings by BTS staff than those given by the donors themselves. In fact, the results of a correlation analysis, which are presented in Table Q, demonstrate that for all five staff attributes, donor ratings tended to be significantly higher than those of staff.

Only 11.1% of staff and 32.9% of donors felt that Red Cross advertising was adequate. The remainder felt it was either inadequate--51.1% of staff and 41.6% of donors felt this way--or had no opinion. As Table Q demonstrates, however, there was a significant, although weak, relationship between ratings of adequacy and type of respondent,with donors tending to rate higher than staff. It should be pointed out that while these data suggest that Red Cross advertising may be inadequate, further study would be required to determine specifically whether adequacy referred to content, coverage, frequency, or some combination of all of these.

Both groups were also asked to rate their perceptions of current donor influence on Red Cross. It is interesting to note that only 11.4% of the staff respondents felt that donors had no influence compared to 36.3% of the donor respondents who felt the same way. There was also a significant positive correlation between type of respondent and ratings of donor influence as is shown in Table Q. Since staff are probably in a good position to judge the influence that donors may or may not have, these results suggest that donors may actually have more influence than they are aware of.

BTS Staff and Hospitals

Responses of BTS staff and hospital blood bank personnel were compared on their ratings of: overall BTS performance, emergency performance, staff relations, product quality, product quantity, Centre effectiveness in dealing with product/supply and administrative/policy problems, and current hospital influence on the local BTS.

As was noted in earlier sections of this chapter, the majority of respondents--both BTS staff and hospital personnel--rated overall BTS performance as well as emergency performance highly. In the case of the former however, ratings by hospital personnel tended to be significantly higher than those of BTS staff (see Table R). Insofar as ratings of BTS staff relations with hospital personnel was concerned, as was the case with donors, BTS staff ratings were considerably less favorable than those given by hospital personnel. Ratings of courtesy tended to be significantly higher among BTS staff while ratings of competency and efficiency tended to be significantly higher among hospital personnel. This is understandable when one considers the very nature of hospital laboratory work which demands high levels of competency and efficiency to ensure that quality of care is not compromised. Hospital staff would, therefore, tend to focus on these qualities.

Both hospital personnel and BTS staff rated Centre effectiveness in dealing with product/supply and administrative/policy problems favorably although ratings for the latter were considerably less favorable. However, BTS staff tended to rate administrative performance significantly higher than hospital personnel. Apparently, both groups perceive some problems with the way in which the service is administered (particularly the hospitals), although they do not seem to feel that these problems interfere with the ability of the organization to meet its product commitments. There was also general agreement between the two groups that Centre performance in matters of product quality and quantity was good although hospitals tended to rate the former, significantly higher than BTS staff. This was to be expected since BTS staff--because they must deal with all hospitals--are probably exposed to many more quality problems than any single hospital.

As was the case with donors, there were considerable differences between ratings of BTS staff and hospital personnel on current influence. Specifically, BTS staff rated hospital influence on the Centre, significantly higher than the hospitals did themselves. Only 2.3% of BTS staff rated hospitals as having no influence compared with 39% of hospitals. On the other hand, approximately 66% of the BTS staff rated hospitals as having considerable or great influence while only 2.7% of hospitals expressed similar opinions. If one accepts the contention that BTS staff are in a better position than hospitals to assess the impact that hospitals have on Centre operations, then clearly, hospitals have little idea of the contribution they make.

Summary

Four groups of key importance to Red Cross BTS Centre operations were surveyed on their perceptions of Centre effectiveness. A large number of variables were identified as contributing significantly to individual assessments of effectiveness and as was anticipated, these variables differed for each group.

In the following chapter, some discussion of these findings and their possible relevance to organizational effectiveness theory will be presented. In addition, and where appropriate, some suggestions for further study and/or possible future action by the Red Cross will also be presented.

CHAPTER V

DISCUSSION AND RECOMMENDATIONS

Introduction

The results which were presented and discussed in the previous chapter demonstrate clearly that for three of the groups surveyed--donors, hospitals, and BTS staff--the Edmonton Centre BTS was moderately to highly effective. The results also demonstrated that while effectiveness meant different things for different groups, no matter what the measure, the Edmonton Centre BTS was perceived to be doing a good job of meeting the requirements and expectations of the key members of its dominant coalition. The remainder of this chapter will be divided into two sections. The first section will focus on a discussion of some of the major implications of the study's findings insofar as the Edmonton Centre is concerned, and include some recommendations for further study and/or action by the Red Cross. The second section will address the broader issue of organizational effectiveness theory and possible implications of the study's findings as they relate to this theory.

BTS Effectiveness

The results of the donor survey suggest that the Red Cross should consider differential appeals to donors on the basis of age, sex and perhaps, rural/urban. For example, personal contact appears to be more effective with women and older individuals. This may be because these particular individuals are non working or employed in the home setting. Personal contact in the evening however, may also be effective for professional people and other groups of workers who cannot be contacted easily during working hours.

Local newspaper advertising in rural areas--an obviously effective strategy for this group of donors--may not be the best way to reach urban donors. Television or radio may be more effective for this latter group. It may also be that certain unique aspects of urban living--high density apartment complexes with large numbers of working individuals--provide a new potential for the use of mobile clinics. This strategy may also prove effective in recruiting new donors since the results of the non-donor survey seemed to suggest that inconveniently located and scheduled clinics were reasons why people did not give blood.

A significant proportion of donors indicated that they had little or no influence on Red Cross Centre operations. While ratings of, influence were not found to be significantly related to donor ratings of BTS performance--contrary to the findings of Smith and Brown (1964)--perhaps efforts to demonstrate responsiveness to donors would be helpful, particularly given that one of the key areas of public dissatisfaction is perceived insensitivity to client needs (Hasenfeld & English, 1974). The Red Cross should consider the installation of suggestion boxes in donor recovery areas. BTS staff could also make the point to include in their conversation with donors, statements such as: "We'll look into that" or "I'll pass along your suggestion".

It may also be adviseable for the Red Cross to organize clinics in such a fashion that it can deal with donors on the basis of the length of time they have been donating. For example, Callero and Piliavin (1983) found that for beginning donors, it was important to ensure that clinics ran smoothly (no long waiting lines), that staff were available to answer questions and address concerns, and that appropriate rewards were provided. In cases where this did not occur, new donors were often lost to the system. However, this was only found to be important until about the third or fourth donation after which, altruistic commitment to blood donation was found to assume prime importance. In view of these findings, the Red Cross should consider recruiting appropriate staff or volunteers whose primary responsibility would be to deal with beginning donors when they attend the blood clinics, particularly for the first two or three times. It is essential that these individuals have well developed interpersonal skills to enable them to relate sincerely and effectively with new donors.

Two particularly interesting findings of this study were non-donor ratings of exposure to various Red Cross donor recruitment strategies and reasons for not donating blood. In the case of the latter, none of the major reasons commonly cited for not giving blood were selected as major determinants as to why these non-donors did not give. Admittedly, the sample may not have been representative of all non-donors but the results do suggest that there may be other, more important reasons for not giving. If the Edmonton Centre BTS wishes to recruit new donors from the current population of non-donors, then further study is required to identify what these reasons may be so that appropriate strategies can be developed to overcome them. For example, if non-donors are not giving primarily because they simply cannot be bothered, then the Red Cross may have to focus on minimizing the effort required through such strategies as providing readily accessible and conveniently scheduled clinics.

Non-donors did not rate exposure to any of the various Red Cross recruitment strategies particularly high. This may have been due to the fact that their actual exposure was less, however, more likely, the results are indicative of less awareness on the part of non-donors that they had been exposed to such strategies. Specifically, the content of the advertising materials may have been such that it did not attract non-donors' attentions. Given that the majority of Red Cross' donor recruitment materials emphasize either factual data or altruistic motives such as helping others, this is not suprising. In light of this, the Red Cross should consider restructuring donor recruitment materials to focus on two sets of potential donors: non-donors and new donors, and longer term donors. As was noted earlier, Callero and Piliavin (1983) found that external social pressures and rewards were more critical in motivating new donors while internal, altruistic factors were more important for longer term donors. For this reason, television and radio advertisements and posters of the "Bell Telephone type" that arouse strong compassion, may be the best way to get the attention of those non-donors who "gate-out" standard appeals and messages.

BTS Centre performance as rated by the hospitals, was high in all aspects although somewhat less so insofar as administrative performance was concerned. Furthermore, Red Cross was the decided preference over all other organizational alternatives. This is an advantage which should be protected and not allowed to erode. At the same time, the results did suggest that the present administrative structure could be readily challenged in favour of a more decentralized approach;

something that has already been recommended to the Red Cross (Croft Palmer, 1979). And, as was noted in Chapter II, both Negandhi and Reimann (1975) and Pennings (1976) found that highly centralized organizations were less effective than their more decentralized counterparts. In the case of the Red Cross BTS, the argument for a decentralized administration seems reasonable. While it is essential to establish and maintain national standards for product quality control, local administration with a considerable degree of local autonomy, would probably be more effective and efficient, particularly given that BTS Centres are required to deal on an ongoing basis with their provincial government authorities, local hospital personnel, and employee unions.

The Red Cross should discuss with hospitals, specific ways in which its administrative performance could be improved. Since provincial government authorities also have a direct interest and involvement in the BTS program--principally through the funding of it--they should also be involved. This may help to alleviate concerns since the participants may begin to feel that they actually do have some influence on, and input to, the Red Cross BTS.

As was the case with the hospitals, BTS staff rated all aspects of Centre performance highly, although administrative performance was rated somewhat less favorably. Worthy of note was the fact that the majority of staff respondents did not feel that they were particularly well informed on either organizational or program goals. Furthermore, for the most part, the National Office of the BTS was perceived to be more of a hindrance than a help. This could have been due to the fact that they (the staff), were unaware of what the roles and responsibilities of the National Office of the BTS actually are. In light of these findings, the Red Cross should ensure that all new BTS personnel are provided with an orientation program that includes information on the overall aims and objectives of the Society as a whole, as well as those of the National Office and the BTS/BDR programs. Every attempt should be made to ensure that all BTS personnel develop a sound understanding and are made to feel an integral part of, the Canadian Red Cross Society. Centre administration should also attempt to solicit from staff (in a non-threatening fashion), ways in which administrative performance could be improved.

The findings of this study could serve as a basis for the development of specific strategies aimed at maintaining or improving BTS Centre performance and subsequent surveys of a similar nature could provide some assessment of the implementation of these strategies. While it is recognized that to carry out a study of this magnitude on a regular basis would prove excessively costly and time consuming, those items specifically related to assessments of overall performance could be monitored regularly. For example, it may be possible for the BTS Centre to conduct a series of annual mini-surveys among staff, hospitals and donors. The Edmonton Public School Board has adopted this approach and carries out annual surveys to assess schools' performance.

Implications for Organizational Effectiveness Theory

If the results of the present study are considered, not as they apply specifically to the Red Cross, but rather, for their possible contribution to a better understanding of organizational effectiveness theory, then a number of the results warrant further discussion here.

The results lend support to the contention that organizational effectiveness is a multi-dimensional, and not a unitary, concept. Clearly, no single criterion, or group of criteria, can serve as universal measures of organizational performance since it seems unrealistic to expect that a discrete set of criteria exist that would be able to satisfy: (1) the wide range of organizational types, including both structure and function, (2) the wide range of questions that could be asked with respect to effectiveness, (3) the relatively limited (and specific) range of data available about any given organization, and, (4) the wide range of perceptions about the effectiveness of organizational performance. To cite Cameron (1978):

> No single profile is necessarily better than any other, since strategic constituencies, environmental domain, contextual factors, etc., help determine what combination is most appropriate for the institution. (p. 625)

It may be that very broad criteria could be developed which would then serve as a framework for the assessment of effectiveness in organizations of similar type, such as Rice (1971) and Cameron (1978) have suggested. These criteria could be derived from key organizational attributes such as those identified in Table 1 (p. 21). For example, an effectiveness criterion for any voluntary organization would be its ability to attract and retain high quality volunteers. However, given that organizations, even those of similar type, can vary so greatly in terms of goals, activities, constituents, and environments, this approach could prove problematic especially if attempts are made to compare performance across organizations. As Campbell (1977) states, "if no set of common tasks can be identified, then there is something strange about wanting to make comparisons" (p. 49). This, of course, raises the question as to the purpose behind the study of organizational effectiveness. Is it to improve organizational performance, or to assist in the comparative study of organizations, or some combination of both of these? If the principal purpose is to assist organizations in maximizing their performance, then undoubtedly the focus should be on the development of organization-specific criteria, without undue concern for generalizability or applicability to other similar (or dissimilar), organizations. On the other hand, if the objective is to carry out comparative studies of organizational effectiveness--something Hannan and Freeman (1977) argue is not possible--then the focus should be on the development of more general criteria. Given the results of the present study, this author would argue that while the more generalized approach may contribute something to organizational theory, it may provide little in the way of concrete help to the organization looking for ways to improve its performance.

Finally, the study's results emphasize the importance of including a wide variety of stakeholder groups when studying organizational effectiveness. It is apparent that different constituencies have differing (and sometimes opposing), expectations of, and perceptions about, an individual organization's performance. If, when studying organizational effectiveness, key participants are excluded, the results could prove harmful to the particular organization under study. For example, if a study of the BTS focused only on hospitals, then potential problems with donors could go relatively undetected. This highlights another limitation with the present study, in addition to those specified in Chapter I, namely, the exclusion of a key stakeholder group, government. Given the fact that government(s) is the sole source of financial support for the BTS (and the major source of support for BDR), it would be useful to determine government's perceptions of BTS performance.

TABLES

TABLE A

Demographic Characteristics of Donor Respondents

Characteristics	Respondents (N=367)	
	Number	Percent
Region:		
Edmonton	236	64.3
Other	131	35.7
Sex:		
Male	202	55.0
Female	165	45.0
Age (years):		
18-29	18	4.9
30-45	49	13.4
46-60	162	44.1
60+	138	37.6
Education:		
<grade 10	109	29.7
some high school	81	22.1
high school grad	105	28.6
some college or university	48	13.1
college or university grad	24	6.5
Blood Type:		
A pos.	117	31.9
A neg.	30	8.2
B pos.	32	8.3
B neg.	6	1.6
O pos.	114	31.1
O neg.	32	8.3
AB pos.	23	6.3
AB neg.	4	1.1
Don't know	9	2.4

TABLE B

Varimax Factor Solution: Donor Perceptions of BTS Centre Effectiveness

Item	Label	Factors		
		1 Interpersonal	2 Operational	3 Altruism
1	BTS performance	0.189	0.416	-0.013
2	Frequency of donations	0.008	0.370	-0.067
3	Length of donations	-0.007	0.313	-0.183
4	Willingness to donate in the future	0.066	0.243	0.014
5	Willingness to encourage others to donate	0.082	0.331	0.204
6	Donations appreciated by Red Cross	0.150	0.340	0.126
7	Recognition given by Red Cross for donations	0.158	0.369	0.099
8	Value of recognition by Red Cross	0.040	0.338	0.062
	Frequency of Exposure to Recruitment Strategies (items 9-14)			
9	Local TV	-0.039	-0.087	0.280
10	Local paper	-0.027	0.159	0.223
11	Local radio	-0.030	0.088	0.230
12	Personal notification by Red Cross	0.113	0.084	-0.126
13	Notice	0.067	-0.105	0.153
14	Friends/family	-0.078	-0.105	0.226
15	Sufficient advertising by Red Cross	0.041	0.187	0.123
16	Satisfaction with clinic location	0.007	0.398	0.023
17	Satisfaction with clinic times	0.063	0.438	0.003
18	Satisfaction with clinic frequency	-0.030	0.415	0.025
19	Ability to influence Red Cross	0.033	0.245	0.274
	Ratings of BTS Staff (items 20-24)			
20	Courteous	0.722	0.094	0.002
21	Helpful	0.758	0.103	0.040
22	Competent	0.679	0.116	0.073
23	Dependable	0.819	0.175	-0.007
24	Efficient	0.797	0.043	0.062
	Blood Banking Alternatives: Willingness to donate to: (items 25-29)			
25	Red Cross	-0.004	0.313	0.138
26	Government agency	0.026	-0.307	0.240
27	Profit-maker with payment	-0.076	-0.334	0.009
28	Other voluntary agency (no payment)	0.033	-0.213	0.182
29	Voluntary agency with payment	-0.061	-0.408	0.045
30	Willingness to continue donating to Red Cross if other agencies were paying their donors	0.063	0.285	0.174

TABLE 8

Varimax Factor Solution: Donor Perceptions of BTS Centre Effectiveness

		Factors		
Item	Label	1 Interpersonal	2 Operational	3 Altruism
	Reasons for Donating Blood (items 31-38)			
31	Giving blood is a good thing	0.163	0.284	0.233
32	Rare blood type	0.006	0.009	0.325
33	Red Cross asks	0.110	0.194	0.339
34	Repayment for blood used	0.048	0.078	0.371
35	Encouragement from others	0.059	-0.031	0.479
36	To help others	0.043	0.257	0.301
37	Future need for blood	-0.043	0.058	0.413
38	Hear about the need for blood	0.130	0.140	0.468

TABLE C

Pearson Correlation Coefficients[a] for Relationships Between

Demographic and Dependent Variables: Donors

(N=367)

Item	Dependent Variable	Demographic Variable					
		Blood Type	Sex	Age	Education	Population	Region
1	BTS performance	.048[b]	.006[b]	.182	-.164	-.012[b]	.026[b]
2	Frequency of donations	.071[b]	.206	.035[b]	.028[b]	.223	.139
3	Length of donations	.082[b]	.165	.469	-.125	-.016[b]	-.027[b]
4	Willingness to donate in the future	.113	.091	.060[b]	-.032[b]	.026[b]	-.045[b]
5	Willingness to encourage other to donate	-.015[b]	-.104	.146	-.094	-.120	-.093[b]
6	Donations appreciated by Red Cross	-.007[b]	-.089	.106	-.100	-.038[b]	-.013[b]
7	Recognition given by Red Cross for donations	.063[b]	-.063[b]	.057[b]	-.106	-.032[b]	-.049[b]
8	Value of recognition by Red Cross	.079[b]	-.045[b]	.076[b]	-.129	-.128	-.101
9-14	Frequency of exposure to recruitment strategies						
	: local TV	-.023[b]	.064[b]	-.030[b]	-.116	.121	.074[b]
	: local paper	.020[b]	-.144	.162	-.102	-.296	-.524
	: local radio	-.004[b]	.067[b]	-.035[b]	-.008[b]	.139	-.008[b]
	: personal notification by Red Cross	-.012[b]	.114	.161	-.021[b]	.166	.424
	: notices	-.085[b]	-.193	-.165	.108	-.135	-.036[b]
	: friends/family	.018[b]	-.074[b]	-.078[b]	.032[b]	-.188	-.209
15	Sufficient advertising by Red Cross	-.016[b]	-.014[b]	.047[b]	-.091	-.063[b]	-.108
16	Satisfaction with clinic location	.015[b]	-.074[b]	.136	-.015[b]	-.024[b]	-.211
17	Satisfaction with clinic times	.006[b]	-.005[b]	.260	-.100	.026[b]	-.024[b]
18	Satisfaction with clinic frequency	.016[b]	-.039[b]	.114	.001[b]	.109	-.097[b]
19	Ability to influence Red Cross	.022[b]	.014[b]	-.012[b]	-.015[b]	-.002[b]	.048[b]
20-24	Ratings of BTS Staff						
	: courteous	-.009[b]	-.084[b]	.124	-.071[b]	-.086	-.040[b]
	: helpful	-.082[b]	-.066[b]	.033[b]	-.135	-.153	-.106
	: competent	.002[b]	-.034[b]	-.068[b]	-.063[b]	-.030[b]	-.032[b]
	: dependable	.006[b]	-.037[b]	.145	-.120	-.051[b]	-.091[b]
	: efficient	-.030[b]	-.062[b]	.109	-.127	-.127	-.046

TABLE C

Pearson Correlation Coefficients[a] for Relationships Between Demographic and Dependent Variables: Donors

(N=367)

		Demographic Variable					
Item	Dependent Variable	Blood Type	Sex	Age	Education	Population	Region
25-29	Blood banking alternatives: willingness to donate to						
	: Red Cross	.023[b]	-.081[b]	-.008[b]	-.064[b]	-.024[b]	-.050[b]
	: government agency	-.107	-.062[b]	-.208	.121	.010[b]	.064[b]
	: profit maker with payment	-.091	.007[b]	-.115	.033[b]	-.016[b]	.015[b]
	: other voluntary agency (no payment)	-.080[b]	-.076[b]	-.236	-.056[b]	-.011[b]	.006[b]
	: other voluntary agency with payment	-.062[b]	.064[b]	.145	.053[b]	.006[b]	.062[b]
30	Willingness to continue donating to Red Cross if other agencies were paying their donors	-.051[b]	-.065[b]	-.027[b]	.014[b]	.026[b]	.018[b]
31-38	Importance of reasons for donating blood						
	: giving blood is a good thing	.108	-.128	-.089	-.005[b]	-.003[b]	-.001[b]
	: rare blood type	-.131	-.036[b]	-.071[b]	-.087	-.006[b]	-.012[b]
	: Red Cross asks	-.048[b]	.018[b]	-.003[b]	-.037[b]	.025[b]	.111
	: repayment for blood used	.043[b]	-.075[b]	-.018[b]	-.123	-.178	-.180
	: encouragement from others	.011[b]	-.113	-.140	.071[b]	-.111	-.066[b]
	: to help others	.113	-.055[b]	.015[b]	-.078[b]	.009[b]	-.002[b]
	: future need for blood	-.003[b]	-.072[b]	-.068[b]	-.080[b]	-.041[b]	-.104
	: hear about the need for blood	-.013[b]	-.052	-.123	-.025[b]	-.010[b]	.053

[a] Coefficients significant at the 0.05 level or less unless otherwise indicated

[b] Coefficients not significant at the 0.05 level

TABLE D

Pearson Correlation Coefficients[a] for Relationships Between
Donor Ratings of Overall BTS Performance and Dependent Variables
(N=367)

Item	Dependent Variable	Pearson Correlation Coefficient
2	Frequency of donations	.166
3	Length of donations	.109
4	Willingness to donate in future	.153
5	Willingness to encourage others to donate	.220
6	Donations appreciated by Red Cross	.240
7	Recognition given by Red Cross for donations	.263
8	Value of recognition given by Red Cross	.184
9-14	Frequency of exposure to recruitment strategies	
	: local TV	-.019[b]
	: local paper	-.045[b]
	: local radio	-.016[b]
	: personal notification by Red Cross	.044[b]
	: notices	-.103
	: friends/family	-.030[b]
15	Sufficient advertising by Red Cross	.120
16	Satisfaction with clinic location	.113
17	Satisfaction with clinic times	.154
18	Satisfaction with clinic frequency	.131
19	Ability to influence Red Cross	.181
20-24	Ratings of BTS Staff	
	: courteous	.116
	: helpful	.178
	: competent	.223
	: dependable	.225
	: efficient	.165
25-29	Blood banking alternatives: willingness to donate to	
	: Red Cross	.138
	: government agency	-.138
	: profit-maker with payment	-.148
	: other voluntary agency (no payment)	-.042[b]
	: other voluntary agency with payment	-.144

TABLE D

Pearson Correlation Coefficients[a] for Relationships Between Donor Ratings of Overall BTS Performance and Dependent Variables (N=367)

Item	Dependent Variable	Pearson Correlation Coefficient
30	Willingness to continue donating to Red Cross if other agencies were paying their donors	.170
31-38	Importance of reasons for donating blood	
	: giving blood is a good thing	.092
	: rare blood type	-.011[b]
	: Red Cross asks	-.049[b]
	: repayment for blood used	-.003[b]
	: encouragement from others	-.010[b]
	: to help others	-.028[b]
	: future need for blood	-.010[b]
	: hear about the need for blood	.112

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[a] Coefficients significant at the 0.05 level or less unless otherwise indicated

[b] Coefficient not significant at the 0.05 level

TABLE E

Demographic Characteristics of Non-Donor Respondents

	Respondents (N=225)	
Characteristics	Number	Percent
Sex:		
Male	142	63.1
Female	83	36.9
Age (years):		
18-29	34	15.1
30-45	40	17.8
46-60	72	32.0
60+	79	35.1
Education:		
<grade 10	66	29.3
some high school	43	19.1
high school grad	59	26.2
some college or university	29	12.8
college or university grad	28	12.4

TABLE F

Varimax Factor Solution: Non-Donor Perceptions of BTS Centre Effectiveness

		Factors	
Item	Label	1 Disincentives	2 Incentives
1	Previous donation to Red Cross	0.152	-0.035
2	Think about donating	0.188	0.288
	Frequency of Exposure to Recruitment Strategies (items 3-6)		
3	Local TV	-0.007	0.326
4	Local radio	-0.068	0.422
5	Friends/family	-0.048	0.441
6	Notices	-0.064	0.536
	Importance of Reasons for Not Donating Blood (items 7-14)		
7	Never asked	0.333	0.204
8	Inconvenient location	0.752	0.145
9	Too much time	0.610	0.050
10	Religious beliefs forbid	0.042	0.129
11	Fear of needles	0.341	0.023
12	Time of day inconvenient	0.715	0.135
13	Medical condition prevents donating	-0.522	0.095
14	Never hear about clinics	0.415	-0.046
15	Donate if paid	0.240	-0.177

TABLE 6

Pearson Correlation Coefficients[a] for Relationships Between

Demographic and Dependent Variables: Non-Donors

(N=225)

Item	Dependent Variable	Sex	Age	Education	Population
		Demographic Variable			
1	Previous donation to Red Cross	.084[b]	.087[b]	.053[b]	-.003[b]
2	Think about donating	.166	-.287	.218	.040[b]
3-6	Frequency of exposure to recruitment strategies				
	: local TV	-.008[b]	.035[b]	-.171	-.121
	: local radio	.070[b]	.016[b]	.001[b]	-.044[b]
	: friends/family	-.067[b]	-.088[b]	-.025[b]	-.001[b]
	: notices	-.046[b]	-.145	-.009[b]	-.132
7-14	Importance of reasons for not donating blood				
	: never asked	-.083[b]	.015[b]	-.112	-.033[b]
	: inconvenient location	-.044[b]	-.266	.120	-.009[b]
	: too much time	.227	-.242	.208	.102[b]
	: religious beliefs forbid	-.083[b]	.151	-.096[b]	-.084[b]
	: fear of needles	.030[b]	-.152	.013[b]	.018[b]
	: time of day inconvenient	.054[b]	-.360	.210	.009[b]
	: medical condition prevents donating	-.133	.335	-.087[b]	-.077[b]
	: never hear about clinics	-.012[b]	-.214	.116	-.045[b]
15	Donate blood if paid	.010[b]	-.333	.170	-.028

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[a] Coefficients significant at the 0.05 level or less unless otherwise indicated

[b] Coefficient not significant at the 0.05 level

TABLE H

Demographic Characteristics of Hospital Respondents

Characteristic	Respondents (N=74) Number	Respondents (N=74) Percent
Position:		
Administration	3	4.1
Laboratory Technician	49	66.2
Physician	1	1.3
Physician Administrator	3	4.1
Other	18	24.3
Subtotal	74	100.0
Position Length (years):		
1	13	17.6
1-5	14	18.9
6-10	34	45.9
10	13	17.6
Subtotal	74	100.0
Supervision:		
Pathologist on site	8	10.8
Physician (non-pathologist)	24	32.4
Consultant pathologist	13	17.6
Other	29	39.2
Subtotal	74	100.0
Rated Beds[a]:		
1 - 24	8	10.8
25 - 49	34	45.9
50 - 99	19	25.7
100 - 299	6	8.1
300 - 499	3	4.1
500+	4	5.4
Subtotal	74	100.0

TABLE H

Demographic Characteristics of Hospital Respondents

Characteristic	Respondents (N=74) Number	Percent
Number of Transfusion Reactions (1979/80)[b]		
0	46	62.1
1 - 9	11	14.8
10 - 24	6	8.1
25 - 49	1	1.4
50 - 99	1	1.4
100+	1	1.4
No response	8	10.8
Subtotal	74	100.0

[a]Source: Alberta Hospitals and Medical Care. Annual report 1979/80. Author: Edmonton, 1981.

[b]Source: 1979-1980 Annual Return of Health Care Facilities Hospitals Part One: Hospital Blood Bank Data. Health and Welfare Canada, 1981.

TABLE I

Number of Patients and Units of Products Transfused in 1980 by Hospital Respondents

	Percentage of Hospitals (N=74)							
	Number of Patients/Units Transfused							
Patients/ Products	0	1-24	25-49	50-99	100-299	300-499	500-999	1000+
Patients	0.0	56.8	18.9	4.1	9.5	0.0	5.4	5.4
Whole Blood	66.2	17.6	9.5	4.1	1.4	0.0	1.4	0.0
Concentrated Red Cells	2.7	35.1	20.3	16.2	8.1	5.4	2.7	9.5
Stored Plasma	94.6	2.7	0.0	0.0	0.0	1.4	0.0	1.4
Fresh Frozen Plasma	75.7	14.9	0.0	1.4	4.1	1.4	0.0	2.7
Cryoprecipitate	87.8	4.1	1.4	0.0	1.4	0.0	2.7	2.7
Platelet Concentrate	75.7	13.5	1.4	2.7	4.1	0.0	1.4	1.4

TABLE J

Varimax Factor Solution: Hospital Perceptions of BTS Centre Effectiveness

Item	Label	Factors 1 Performance	 2 Responsiveness
1	Quality satisfaction	0.448	-0.203
2	Quantity satisfaction	0.656	-0.073
3	Emergency performance	0.412	-0.060
4	Frequency of Transport problems	0.426	-0.015
5	Shelf life	0.339	-0.109
	Blood Banking Alternatives (items 6-10)		
6	Government agency	-0.179	-0.018
7	Red Cross	0.341	-0.151
8	Commercial agency	-0.235	-0.098
9	Hospitals	-0.064	-0.179
10	Variety of agencies	0.016	-0.239
11	Preference to change supplier	0.033	-0.260
12	Overall BTS performance	0.636	-0.282
	Regionalization Options (items 13-16)		
13	Regional BTS	0.208	-0.598
14	Regional blood banks with hospital storage	0.096	-0.438
15	Regional crossmatching	0.144	-0.512
16	Local storage and crossmatching	-0.165	0.379
	Frequency of Communication Methods (items 17-20)		
17	Phone	0.083	0.230
18	Telex	-0.046	-0.192
19	Written	0.122	-0.146
20	Face to face	-0.069	0.482
21	General Frequency of communication	-0.200	0.767
22	Communication: self initiated	-0.070	0.081
23	Communication: Red Cross initiated	0.410	1.104
24	Frequency of discussions with Red Cross re blood policy	-0.105	0.269
25	Need for more discussions	-0.189	0.027
26	BTS effectiveness: product/supply problems	0.652	-0.163
27	BTS effectiveness: administration/policy problems	0.708	-0.131
	Ratings of BTS Staff (items 28-32)		
28	Staff courteous	0.550	-0.131
29	Staff helpful	0.615	-0.179
30	Staff competent	0.804	-0.104
31	Staff dependable	0.772	-0.177
32	Staff efficient	0.691	-0.225

TABLE J

Varimax Factor Solution: Hospital Perceptions of BTS Centre Effectiveness

Item	Label	Factors 1 Performance	 2 Responsiveness
33	Hospital crossmatching (current)	-0.432	0.376
34	Desire to crossmatch	-0.140	0.409
35	Frequency of local bleeding	-0.449	0.004
36	Donor payment	-0.150	0.045
37	Serum hepatitis with commericial system	-0.028	0.329
38	Frequency of return of indated, excess stock	0.245	0.192
39	BTS research	0.124	0.247
	Product Availability (items 40-54)		
40	Whole blood	0.323	-0.065
41	Concentrated red cells	0.298	0.033
42	Stored plasma	-0.034	0.511
43	Fresh frozen plasma	-0.210	0.500
44	Platelets	0.018	0.357
45	Platelet concentrate	-0.071	0.476
46	Cryoprecipitate	-0.121	0.604
47	Serum albumin 5%	-0.192	0.274
48	Serum albumin 25%	-0.155	0.390
49	Factor VIII concentrate	0.032	0.556
50	Factor IX	-0.037	0.386
51	Immune serum globulin	-0.077	0.302
52	Rh immune globulin	-0.140	0.102
53	Hepatitis immune globulin	-0.080	0.410
54	Vaccina immune globulin	-0.058	0.495
55	Local influence	0.168	0.099
56	National influence	0.269	-0.161
57	Favorable towards BTS re products and supply	0.738	-0.061
58	Favorable towards BTS re service and general administration	0.643	-0.408
61	Separate blood bank	-0.351	0.584
62	Crossmatching and storage facilities to other hospitals	-0.184	0.346
63	Type of supervision in blood bank	-0.382	0.368

TABLE K

Pearson Correlation Coefficients[a] for Relationships Between Hospital Ratings of BTS Performance/Effectiveness and Independent and Dependent Variables

(N=74)

		BTS Performance Variables				
Item	Variable	Overall BTS Performance	BTS Effectiveness Products/ Supply	BTS Effectiveness Administration Policy	Favorable Towards BTS re Products/ Supply	Favorable Towards BTS re Service/ General Administration
1	Quality satisfaction	.308	.302	.291	.340	.320
2	Quantity satisfaction	.476	.543	.535	.667	.446
3	Emergency Performance	.426	.459	.241	.352	.419
4	Frequency of transport problems	-.274	-.228	-.279	-.353	-.381
5	Shelf Life	.274	.101[b]	.057[b]	.217[b]	.164[b]
6-10	Blood Banking Alternatives					
	: Government agency	-.185[b]	-.121[b]	.012[b]	-.118[b]	-.075[b]
	: Red Cross	.248	.203	.233	.257	.340
	: Commercial agency	-.087[b]	.026[b]	.043[b]	-.083[b]	.043[b]
	: Hospitals	-.004[b]	-.122[b]	-.010[b]	-.014[b]	.024[b]
	: Variety of agencies	-.096[b]	.031[b]	-.023[b]	-.004[b]	.143[b]
11	Preference to change supplier	.054[b]	.057[b]	-.059[b]	.127[b]	.199
13-16	Regionalization Options					
	: Regional BTS	.408	.378	.277	.191[b]	.497
	: Regional blood banks with hospital storage	.149[b]	.084[b]	.088[b]	.063[b]	.210
	: Regional crossmatching	.316	.181[b]	.148[b]	.164[b]	.385
	: Local storage and crossmatching	-.239[b]	-.139[b]	-.176[b]	-.057[b]	-.095[b]
17-20	Frequency of communication methods					
	: Phone	-.038[b]	.005[b]	.029[b]	.072[b]	.015[b]
	: Telex	.011[b]	.033[b]	.024[b]	-.024[b]	.005[b]
	: Written	.130[b]	.023[b]	.137[b]	.104[b]	.050[b]
	: Face to face	-.212	-.152[b]	-.137[b]	-.077[b]	-.225
21	General frequency of communication	-.361	-.196	-.312	-.128[b]	-.384
22	Communication: self initiated	-.106[b]	.027[b]	-.099[b]	-.003[b]	-.101[b]
23	Communication: Red Cross initiated	-.133[b]	.245	.435	.321	.232
24	Frequency of discussions with Red Cross re blood policy	-.108[b]	-.014[b]	-.005[b]	-.102[b]	-.155[b]
25	Need for more discussions	-.202[b]	-.133[b]	-.025[b]	-.173[b]	-.131[b]

TABLE K

Pearson Correlation Coefficients[a] for Relationships Between Hospital Ratings of BTS Performance/Effectiveness and Independent and Dependent Variables

(N=74)

		BTS Performance Variables				
Item	Variable	Overall BTS Performance	BTS Effectiveness Products/ Supply	BTS Effectiveness Administration Policy	Favorable Towards BTS re Products/ Supply	Favorable Towards BTS re Service/ General Administration
28-32	Ratings of BTS Staff					
	: Courteous	.336	.439	.502	.442	.545
	: Helpful	.395	.399	.461	.525	.480
	: Competent	.571	.596	.535	.542	.440
	: Dependable	.510	.501	.527	.547	.408
	: Efficient	.461	.467	.537	.455	.460
33	Current hospital crossmatching	-.370	-.227	-.421	-.209	-.368
34	Desire to do own crossmatching	-.241	-.252	-.053	-.183[b]	-.206
35	Frequency of local bleeding	-.330	.204	-.308	-.307	-.257
36	Donor payment	-.021[b]	-.075[b]	-.084	-.004[b]	-.047[b]
37	Serum hepatitis with commercial system	-.104[b]	.068[b]	-.020[b]	-.077[b]	-.094[b]
38	Frequency of return of indated, excess stock	.147[b]	-.034[b]	.107[b]	.247	-.033[b]
39	BTS research	.048[b]	.090[b]	.053[b]	-.023[b]	.028[b]
40-54	Product availability					
	: whole blood	.319	.194	.104[b]	.211	.208
	: concentrated red cells	.194	.065[b]	.221	.384	.082[b]
	: stored plasma	-.046[b]	-.056[b]	-.014[b]	-.042[b]	-.227
	: fresh frozen plasma	-.292	-.095[b]	-.175[b]	-.182[b]	-.269
	: platelets	-.012[b]	-.135[b]	-.016[b]	-.046[b]	-.147[b]
	: platelet concentrate	-.188[b]	-.205	-.097[b]	-.022[b]	-.117[b]
	: cryoprecipitate	-.278	-.152[b]	-.096[b]	-.171[b]	-.207
	: serum albumin 5%	-.222	-.095[b]	-.271	-.167[b]	-.303
	: serum albumin 25%	-.223	-.127[b]	-.209	-.102[b]	-.308
	: factor VIII concentrate	-.221	-.127[b]	-.003[b]	-.092[b]	-.260
	: factor IX	-.153[b]	-.138[b]	-.114[b]	-.098[b]	-.166[b]
	: immune serum globulin	-.141[b]	-.205	-.120[b]	-.107[b]	-.337
	: Rh immune globulin	-.009[b]	.009[b]	-.104[b]	.030[b]	-.005[b]
	: hepatitis immune globulin	-.139[b]	-.155[b]	-.136[b]	-.174[b]	-.272
	: vaccina immune globulin	-.047[b]	-.140[b]	-.256	-.162[b]	-.409
55	Local influence	.087[b]	.113[b]	.142[b]	.023[b]	.081[b]
56	National influence	.075[b]	.144[b]	.298	.080[b]	.192[b]

TABLE K

Pearson Correlation Coefficients[a] for Relationships Between Hospital Ratings of BTS Performance/Effectiveness and Independent and Dependent Variables

(N=74)

		BTS Performance Variables				
Item	Variable	Overall BTS Performance	BTS Effectiveness: Products/ Supply	BTS Effectiveness Administration Policy	Favorable Towards BTS re Products/ Supply	Favorable Towards BTS re Service/ General Administration
59	Present position	.039[b]	.053[b]	-.005[b]	.033[b]	.045[b]
60	Time in present position	.161[b]	.133[b]	.253	.006[b]	.037[b]
61	Separate blood bank	-.507	-.289	-.258	-.221	-.460
62	Crossmatching and storage facilities to other hospitals	-.200	-.101[b]	-.241	-.157[b]	-.192[b]
63	Type of supervision in blood bank	-.233	-.359	-.301	-.363	-.493
64	Patients transfused 1980	-.533	-.400	-.356	-.305	-.505
65-70	Units transfused 1980					
	: whole blood	-.488	-.313	-.395	-.369	-.504
	: concentrated red cells	-.561	-.352	-.303	-.270	-.466
	: stored plasma	-.194	-.089[b]	-.232	-.101[b]	-.322
	: fresh frozen plasma	-.439	-.347	-.335	-.209	-.522
	: cryoprecipitate	-.224	-.058[b]	-.048[b]	-.068[b]	-.236
	: platelet concentrate	-.452	-.338	-.286	-.176[b]	-.505
71	Rated beds	-.387	-.254	-.249	-.173[b]	-.371
72	Transfusion reactions 1979/80	-.371	-.294	-.342	-.299	-.466

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[a] Coefficients significant at the 0.05 level or less unless otherwise indicated

[b] Coefficient not significant at the 0.05 level

TABLE L

Demographic Characteristics of Staff Respondents

	Respondents (N=45)	
Characteristics	Number	Percent
Sex:		
Male	5	11.1
Female	40	88.9
Age (years):		
18-29	26	57.8
30-45	16	35.6
46-60	2	4.4
60+	1	2.2
Education:		
<grade 10	4	8.9
some high school	3	6.7
high school graduate	12	26.7
some college or university	6	13.3
college or university graduate	20	44.4
Length of Employment (years):		
<1	11	24.4
1-5	23	51.1
6-10	4	8.9
>10	7	15.6
Previous CRCS Employment:		
Yes	5	11.5
No	40	88.9
CRCS Volunteer:		
Yes	1	2.2
No	44	97.8
Position:		
Administration	6	13.3
Nursing	12	26.7
Laboratory	23	51.1
Transport	4	8.9

TABLE M

Varimax Factor Solution: Staff Perceptions of BTS Centre Effectiveness

Item	Label	Factors 1 Performance	 2 Autonomy	 3 Constraint
1	BTS-hospital relations	0.566	0.181	-0.138
2	BTS performance in meeting hospital product requirements	0.316	0.295	-0.076
3	BTS performance in meeting unexpected or emergency demands	0.371	-0.082	0.060
	Ratings of Staff-Hospital Relations (items 4-8)			
4	Courteous	0.514	0.096	-0.233
5	Helpful	0.575	0.079	-0.292
6	Competent	0.418	0.036	-0.084
7	Dependable	0.603	0.021	-0.153
8	Efficient	0.775	-0.200	-0.039
9	BTS responsiveness to hospital concerns	0.277	0.052	0.043
10	Product quality	0.408	0.007	0.038
11	Quantity effectiveness	0.268	0.418	0.138
12	Current hospital influence on BTS	-0.179	0.497	0.236
13	Appropriate hospital involvement in BTS	0.015	0.503	0.116
14	BTS-donor relations	0.485	0.119	-0.178
	Ratings of Staff-Donor Relations (items 15-19)			
15	Courteous	0.543	0.051	-0.142
16	Helpful	0.771	-0.113	0.006
17	Competent	0.687	-0.150	-0.105
18	Dependable	0.616	-0.008	-0.019
19	Efficient	0.654	-0.059	-0.019
20	BTS responsiveness to donor concerns	0.528	0.051	0.093
21	Donor payment	0.045	-0.484	0.127
22	Commercial system means the end of the BTS	-0.062	-0.017	0.177
23	More advertising by Red Cross	0.080	-0.007	0.384
24	Effectiveness of past recruitment strategies	0.392	0.352	-0.557
	Effectiveness of Current Donor Recruitment Strategies (items 25-29)			
25	Local TV	0.201	0.186	-0.004
26	Local radio	0.341	0.077	-0.040
27	Local paper	0.437	0.431	-0.225
28	Local notice	0.489	0.213	-0.227
29	Personal notification by Red Cross	0.338	0.122	-0.180
30	Adequacy of resource allocation to BDR	0.277	-0.102	0.201

TABLE M

Varimax Factor Solution: Staff Perceptions of BTS Centre Effectiveness

Item	Label	Factors		
		1 Performance	2 Autonomy	3 Constraint
31	Current donor influence on BTS	-0.029	0.435	-0.092
32	Appropriate donor involvement in BTS	-0.171	0.744	-0.123
33	BTS-government relations	0.701	0.221	0.387
34	BTS responsiveness to government concerns	0.680	0.179	0.336
35	Government BTS more effective	0.033	-0.059	0.331
36	Current government influence on BTS	0.238	0.285	0.017
37	Appropriate government involvement in BTS	0.032	0.553	0.163
38	More involvement by government in the future	-0.033	-0.08	0.321
39	Extent to which CRCS goals identified	0.509	0.281	-0.138
40	Extent to which National BTS goals identified	0.579	0.373	-0.080
41	Extent to which BTS Centre goals identified	0.463	0.298	0.282
42	Extent of Centre goal achievement	0.676	0.341	0.218
43	Goal conflict: Centre-National BTS	-0.100	0.152	0.535
44	Goal conflict: Centre-CRCS	0.042	0.270	0.389
45	Extent to which National BTS assists Centre	0.390	0.519	-0.180
46	Extent to which National BTS constrains Centre	0.232	0.164	0.512
47	Current National BTS influence on Centre	0.037	0.253	0.132
48	Appropriate National BTS involvement in Centre	0.174	0.665	-0.189
49	More Centre independence	-0.099	-0.000	0.554
50	Current Centre influence on National BTS	0.346	0.692	0.043
51	Appropriate Centre involvement in National BTS	-0.091	0.677	0.168
52	Current Division influence on Centre	0.015	0.782	-0.121
53	Appropriate Division involvement in Centre	-0.070	0.836	-0.349
54	Current personal influence on Centre	0.255	0.385	0.319
55	Centre-National BTS relations	0.599	0.355	-0.291
56	Centre-Calgary Centre relations	0.202	0.472	-0.19
57	Centre-Division relations	0.368	0.434	-0.492
58	Centre-Branch BDR relations	0.266	0.382	-0.486
59	Centre-Union relations	0.582	0.031	0.388
60	Performance: products and supply	0.541	-0.049	0.161
61	Performance: general administration	0.541	0.170	0.294

TABLE M

Varimax Factor Solution: Staff Perceptions of BTS Centre Effectiveness

Item	Label	Factors 1 Performance	 2 Autonomy	 3 Constraint
62	Satisfaction with national administration	0.554	0.128	-0.269
63	Satisfaction with local administration	0.630	-0.029	0.340
64	Amalgamation of BTS and BDR would increase effectiveness of blood program	-0.014	-0.224	0.525

TABLE N

Pearson Correlation Coefficients[a] for Relationships Between Selected Demographic and Dependent Variables: BTS Staff

(N=45)

		Demographic Variable				
Item	Dependent Variable	Age	Sex	Education	Length of Employment with BTS	Position
1	BTS-hospital relations	.133[b]	-.012[b]	-.152[b]	.070[b]	.106[b]
2	BTS performance in meeting hospital product requirements	-.009[b]	.129[b]	.064[b]	-.188[b]	.195[b]
3	BTS performance in meeting unexpected or emergency demands	.069[b]	.054[b]	.119[b]	.056[b]	.265
4-8	Ratings of staff-hospital relations					
	: courteous	.223[b]	-.035[b]	-.288	-.023[b]	-.029[b]
	: helpful	-.064[b]	.002[b]	-.026[b]	-.152[b]	.072[b]
	: competent	.212[b]	.019[b]	-.208[b]	.084[b]	.016[b]
	: dependable	-.195[b]	.098[b]	-.012[b]	-.190[b]	.090[b]
	: efficient	-.136[b]	.085[b]	.130[b]	-.063[b]	.288
9	BTS responsiveness to hospital concerns	-.063[b]	-.157[b]	-.087[b]	-.003[b]	.019[b]
10	Product quality	.148[b]	-.106[b]	-.078[b]	.055[b]	.186[b]
11	Quantity effectiveness	.114[b]	-.063[b]	-.274	-.204[b]	.065[b]
12	Current hospital influence on BTS	.118[b]	.264	.079[b]	.064[b]	-.098[b]
13	Appropriate hospital involvement in BTS	.177[b]	.143[b]	-.055[b]	-.061[b]	-.050[b]
14	BTS-donor relations	-.183[b]	.068[b]	-.003[b]	.102[b]	-.082[b]
15-19	Ratings of staff-donor relations					
	: courteous	-.230[b]	.043[b]	.282	-.165[b]	.029[b]
	: helpful	-.117[b]	.026[b]	.100[b]	-.172[b]	.217[b]
	: competent	-.147[b]	.068[b]	.171[b]	-.080[b]	.240[b]
	: dependable	-.074[b]	.062[b]	-.096[b]	-.099[b]	.146[b]
	: efficient	.021[b]	.188[b]	-.315	-.043[b]	.159[b]
20	BTS responsiveness to donor concerns	.259	-.060[b]	-.126[b]	.085[b]	.195[b]
21	Donor payment	.256	.000[b]	-.087[b]	.174[b]	.230[b]
22	Commercial system means end of the BTS	.095[b]	.049[b]	.061[b]	.057[b]	-.059[b]
23	More advertising by Red Cross	.162[b]	-.168[b]	-.018[b]	.317	.162[b]
24	Effectiveness of past recruitment strategies	.010[b]	-.043[b]	-.257	-.301	-.262

TABLE N

Pearson Correlation Coefficients[a] for Relationships Between Selected Demographic and Dependent Variables: BTS Staff

(N=45)

Item	Dependent Variable	Age	Sex	Education	Length of Employment with BTS	Position
25-29	Effectiveness of current donor recruitment strategies					
	: local TV	-.406	.131[b]	.068[b]	-.491	.095[b]
	: local radio	-.031[b]	-.011[b]	-.063[b]	-.184[b]	.235[b]
	: local paper	.005[b]	.030[b]	-.183[b]	-.349	.078[b]
	: notice	-.086[b]	.036[b]	-.074[b]	-.286	.114[b]
	: personal notification by Red Cross	-.249	-.052[b]	.048[b]	-.079[b]	-.079[b]
30	Adequacy of resource allocation to BDR	-.141[b]	.012[b]	-.108[b]	-.050[b]	-.103[b]
31	Current donor influence on BTS	-.118[b]	.067[b]	-.217[b]	-.128[b]	-.323
32	Appropriate donor involvement in BTS	-.025[b]	.209[b]	-.096[b]	-.070[b]	-.303
33	BTS-government relations	.138[b]	.169[b]	.152[b]	.053[b]	.358
34	BTS responsiveness to government concerns	.232[b]	-.082[b]	-.026[b]	.036[b]	.336
35	Government BTS more effective	.212[b]	.166[b]	.262	.257	.152[b]
36	Current government influence on Red Cross	-.023[b]	.030[b]	.136[b]	-.056[b]	.376
37	Appropriate government involvement in BTS	-.012[b]	.503	.159[b]	-.075[b]	-.003[b]
38	More involvement by government in future	-.124[b]	.209[b]	-.274	-.319	.108[b]
39	Extent to which CRCS goals identified	.038[b]	.040[b]	-.290	-.039[b]	-.178[b]
40	Extent to which National BTS goals identified	.007	.037[b]	-.023[b]	-.129[b]	-.048[b]
41	Extent to which BTS Centre goals identified	-.041[b]	.084[b]	.076[b]	-.106[b]	-.016[b]
42	Extent of Centre goal achievement	.156[b]	-.096[b]	-.027[b]	-.061[b]	.150
43	Goal conflict: Centre-National BTS	.104[b]	.357	.302	.313	.092[b]
44	Goal conflict: Centre-CRCS	.081[b]	.293	.263	.058[b]	.071[b]
45	Extent to which National BTS assists Centre	.052[b]	-.125[b]	-.175	-.116[b]	-.175[b]
46	Extent to which National BTS constrains Centre	.005[b]	.399	.179	.015[b]	.298
47	Current National BTS influence on Centre	-.136[b]	.034[b]	.164[b]	-.181[b]	-.180[b]

TABLE N

Pearson Correlation Coefficients[a] for Relationships Between Selected Demographic and Dependent Variables: BTS Staff

(N-45)

		Demographic Variable				
Item	Dependent Variable	Age	Sex	Education	Length of Employment with BTS	Position
48	Appropriate National BTS involvment in Centre	-.199[b]	-.014[b]	-.104[b]	-.261	-.178[b]
49	More Centre independence	.266	-.057[b]	.200[b]	.403	.108[b]
50	Current Centre influence on National BTS	.021[b]	.017[b]	-.071[b]	-.092[b]	-.056[b]
51	Appropriate Centre involvment in National BTS	-.058[b]	.268	.010[b]	-.109[b]	-.036[b]
52	Current Division influence on Centre	-.107[b]	.191[b]	.026[b]	-.349	-.203[b]
53	Appropriate Division involvement in Centre	-.227[b]	.150[b]	-.131[b]	-.371	-.300
54	Current personal influence on Centre	-.051[b]	.305	.156[b]	-.189[b]	-.016[b]
55	Centre-National BTS relations	.047[b]	-.070[b]	-.342	-.119[b]	-.046[b]
56	Centre-Calgary Centre relations	.102[b]	.085[b]	-.205[b]	-.006[b]	-.160[b]
57	Centre-Division relations	-.115[b]	.115[b]	-.264	-.289	-.097[b]
58	Centre-Branch BDR relations	-.047[b]	.049[b]	-.220[b]	-.200[b]	-.332
59	Centre-union relations	.073[b]	-.106[b]	.086[b]	.100[b]	.173
60	Performance: products and supply	.080[b]	.032[b]	.019[b]	-.273	.155[b]
61	Performance: general administration	.198[b]	-.087[b]	-.041[b]	-.000[b]	.295
62	Satisfaction with National administration	-.032[b]	-.280	-.251	.023[b]	-.213[b]
63	Satisfaction with local administration	.075[b]	-.157[b]	.137[b]	.121[b]	.321
64	Amalgamation BTS-BDR	.104[b]	-.126	.224[b]	.544	.219[b]

[a] Coefficients significant at the 0.05 level or less unless otherwise indicated

[b] Coefficients not significant at the 0.05 level

TABLE O

Pearson Correlation Coefficients[a] for Relationships Between Staff Ratings of BTS Performance and Dependent Variables

(N=45)

		Performance Variable			
Item	Dependent Variable	Meeting hospital product requirements	Meeting unexpected or emergency demands	Products and Supply	General Administration
1	BTS-hospital relations	.291	.148[b]	.240[b]	.335
4-8	Ratings of staff-hospital relations				
	: courteous	.146[b]	-.026[b]	.152[b]	.049[b]
	: helpful	.167[b]	.094[b]	.098[b]	.077[b]
	: competent	.117[b]	.164[b]	.449	.105[b]
	: dependable	.173[b]	.098[b]	.360	.168[b]
	: efficient	.193[b]	.364	.295	.227[b]
9	BTS responsiveness to hospital concerns	.125[b]	.360	.251	.226[b]
10	Product quality	.076[b]	.420	.398	.291
11	Quantity effectiveness	.607	.287	.070[b]	.381
12	Current hospital influence on BTS	-.128[b]	-.227	-.127[b]	.000[b]
13	Appropriate hospital involvement in BTS	.202[b]	-.081[b]	-.041[b]	.174[b]
14	BTS-donor relations	.237[b]	.115[b]	-.017[b]	.094[b]
15-19	Ratings of staff-donor relations				
	: courteous	.412	.203[b]	.261	.000[b]
	: helpful	.293	.242[b]	.454	.226[b]
	: competent	.192[b]	.155[b]	.367	.234[b]
	: dependable	.327	.130[b]	.459	.107[b]
	: efficient	.145[b]	.166[b]	.559	.452
20	BTS responsiveness to donor concerns	.295	.189[b]	.289	.208[b]
21	Donor payment	-.102[b]	.171[b]	-.077[b]	.094[b]
22	Commercial system means end of the BTS	-.108[b]	.112[b]	.043[b]	.000[b]
23	More advertising by Red Cross	-.097[b]	-.031[b]	.164[b]	.159[b]
24	Effectiveness of past recruitment strategies	.201[b]	.012[b]	.150[b]	.249
25-29	Effectiveness of current donor recruitment strategies				
	: local TV	.120[b]	.061[b]	.358	.105[b]
	: local radio	.277	.322	.207[b]	.412
	: local paper	.218[b]	.102[b]	.429	.273
	: notice	.248[b]	-.015[b]	.112[b]	.215[b]
	: personal notification by Red Cross	.301	.114[b]	-.106[b]	-.109[b]

TABLE O

Pearson Correlation Coefficients[a] for Relationships Between
Staff Ratings of BTS Performance and Dependent Variables

(N=45)

Item	Dependent Variable	Performance Variable: Meeting hospital product requirements	Meeting unexpected or emergency demands	Products and Supply	General Administration
30	Adequacy of resource allocation to BDR	-.072[b]	.122[b]	.375	.205[b]
31	Current donor influence on BTS	-.114[b]	-.170[b]	-.135[b]	.003[b]
32	Appropriate donor involvement in BTS	.087[b]	.271	-.088[b]	-.141[b]
33	BTS-government relations	.268	.241[b]	.361	.571
34	BTS responsiveness to government concerns	.217[b]	.354	.376	.616
35	Government BTS more effective	-.092[b]	-.030[b]	-.132[b]	.199[b]
36	Current government influence on Red Cross	.434	.264	-.045[b]	.073[b]
37	Appropriate government involvement in BTS	.193[b]	.023[b]	.005[b]	-.027[b]
38	More involvement by government in future	-.039[b]	.104[b]	-.082[b]	-.211[b]
39	Extent to which CRCS goals identified	.143[b]	.145[b]	.167[b]	.418
40	Extent to which National BTS goals identified	.270	.155[b]	.254	.463
41	Extent to which BTS Centre goals identified	.111[b]	.185[b]	.300	.499
42	Extent of Centre goal achievement	.209[b]	.314	.376	.645
43	Goal conflict: Centre-National BTS	.083[b]	0.145[b]	-.040[b]	-.023[b]
44	Goal conflict: Centre-CRCS	.140[b]	.058[b]	.134[b]	.070[b]
45	Extent to which National BTS assists Centre	.233[b]	.079[b]	.063[b]	.362
46	Extent to which National BTS constrains Centre	.071[b]	-.112[b]	.290	.191[b]
47	Current National BTS influence on Centre	-.023[b]	-.082[b]	.297	.145[b]
48	Appropriate National BTS involvement in Centre	.234[b]	-.042[b]	-.062[b]	.118[b]
49	More Centre independence	-.115[b]	-.131[b]	.015[b]	.158[b]
50	Current Centre influence on National BTS	.468	.166[b]	-.016[b]	.274
51	Appropriate Centre involvement in National BTS	.349	-.107[b]	-.191[b]	.101[b]
52	Current Division influence on Centre	.350	.107[b]	.058[b]	.106[b]
53	Appropriate Division involvement in Centre	.226[b]	-.107[b]	-.078[b]	-.024[b]
54	Current personal influence on Centre	.220[b]	.141[b]	.214[b]	.257
55	Centre-National BTS relations	.255	.225[b]	.325	.423

TABLE O

Pearson Correlation Coefficients[a] for Relationships Between Staff Ratings of BTS Performance and Dependent Variables

(N=45)

		Performance Variable			
Item	Dependent Variable	Meeting hospital product requirements	Meeting unexpected or emergency demands	Products and Supply	General Administration
56	Centre-Calgary Centre relations	.077[b]	-.127[b]	.027[b]	.118[b]
57	Centre-Division relations	.224[b]	-.050[b]	.112[b]	.214[b]
58	Centre-Branch BDR relations	.210[b]	.081[b]	.116[b]	.097[b]
59	Centre-union relations	-.035[b]	.125[b]	.362	.538
62	Satisfaction with National administration	.000[b]	.190[b]	.134[b]	.350
63	Satisfaction with local administration	.114[b]	.297	.357	.619
64	Amalgamation BTS-BDR	.101[b]	.045[b]	.069[b]	.189[b]

[a] Coefficients significant at the 0.05 level or less unless otherwise indicated

[b] Coefficients not significant at the 0.05 level

TABLE P

Pearson Correlation Coefficients[a] for Relationships Between Selected Dependent Variables and Type of Respondent: Donors and Non Donors

(N=592)

Dependent Variable	Pearson's r
Recruitment Strategy:	
: local TV	.247
: local radio	.001[b]
: friends/family	-.089
: notices	-.139
Donate if paid	.029[b]

[a] Coefficients significant at the 0.05 level or less unless otherwise indicated

[b] Coefficient not significant at the 0.05 level

TABLE Q

Pearson Correlation Coefficients[a] for Relationships Between Selected Dependent Variables and Type of Respondent: BTS Staff and Donors

(N=419)

Dependent Variable	Pearson's r
Ratings of BTS Staff	
: courteous	-.189
: helpful	-.140
: competent	-.137
: dependable	-.187
: efficient	-.166
Adequacy of Red Cross advertising	-.141
Present Influence	.392

[a] Coefficients significant at the 0.05 level or less unless otherwise indicated

TABLE R

Pearson Correlation Coefficients[a] for Relationships Between Selected Dependent Variables and Type of Respondent: BTS Staff and Hospitals

(N=119)

Dependent Variable	Pearson's r
BTS performance	-.206
Emergency performance	-.061[b]
Ratings of BTS Staff:	
: courteous	.190
: helpful	-.138[b]
: competent	-.261
: dependable	-.149[b]
: efficient	-.215
BTS Effectiveness: Product/ supply problems	.121[b]
BTS Effectiveness: administration/ policy problems	.338
Product quality	-.244
Product quantity	-.042[b]
Present Influence	.745

[a] Coefficients significant at the 0.05 level or less unless otherwise indicated

[b] Coefficient not significant at the 0.05 level

Reference Notes

1. Perrault, R. National Director, Blood Transfusion Service, Canadian Red Cross Society. Personal communication, December 27, 1979.
2. Pawlyshyn, J. Administrator-Edmonton Centre, Red Cross Blood Transfusion Service. Personal communication, February 11, 1981 and October 6, 1981
3. Turc, Dr. J. M. Medical Director-Edmonton Centre, Red Cross Blood Transfusion Service. Personal communication, February 11 and 12, 1981 and June 25, 1982.
4. Condran, P. Director-Blood Donor Recruitment, Edmonton Branch, Canadian Red Cross Society. Personal communication, February 12, 1981.
5. McGregor, W. K. Director-Blood Donor Recruitment, Calgary Branch, Canadian Red Cross Society. Personal communication, February 10 and March 19, 1981.

References

Aldrich, H. A response to gouldner's lament. In R. C. Sarri & Y. Hasenfeld (Eds.), *The management of human services*. New York: Columbia University Press, 1978.

Anderson & Berdie Associates, Inc., *Questionnaire design and use: A workshop.* St. Paul, Minnesota: Author, 1978.

Babbie, E. R. *Survey research methods.* Belmont, California: Wadsworth Publishing Company, 1973.

Bartel, W. P., Stelzner, W., & Higgins, I. Attitudes underlying reluctance to donate blood. *Transfusion*, 1975, *15*(3), 275 - 277

Bennis, W. G. The concept of organizational health. In. W. G. Bennis (Ed.), *Changing organizations*. New York: McGraw-Hill, 1966.

Bouchard, T. I. Field research methods: Interviewing, questionnaires, participant observation, systematic observation, unobtrusive measures. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology*. Chicago: Rand McNally College Publishing Company, 1976.

Bradburn, N. M. & Sudman, S. *Improving interview methods and questionnaire design*. San Francisco: Jossey-Bass Inc., 1979.

Callero, P. L. & Piliavin, J. A. Developing a commitment to blood donation: The impact of one's first experience. *Journal of Applied Social Psychology*, 1983, *13* (1), 1-16.

Cameron, K. Critical questions in assessing organizational effectiveness. *Organizational Dynamics*, 1980, *3*, 66 - 80.

Cameron K. Measuring organizational effectiveness in institutions of higher learning . *Administrative Science Quarterly*, 1978, *23*, 604 - 629

Campbell, D. T. & Fiske, D. W. Convergent and discriminant validation by the multitrait-multimethod matrix. Psychological Bulletin, 1959, 56, 81 - 105.

Campbell, D. T. & Stanley, J. C. Experimental and quasi-experimental designs for research. Chicago: Rand McNally College Publishing Company, 1966.

Campbell, J. On the nature of organizational effectiveness. In P. Goodman & J. Pennings (Eds.), New perspectives on organizational effectiveness. San Francisco: Jossey-Bass Inc., 1977.

Campbell, J. P. Psychometric theory. In M. D. Dunnette (Ed.), Handbook of industrial and organizational psychology. Chicago: Rand McNally College Publishing Company, 1976.

Canadian Red Cross Society. And who is my stranger. Toronto: Author, 1973.

Canadian Red Cross Society. Annual report: 1981. Toronto: Author, 1982a.

Canadian Red Cross Society. Blood transfusion service: 1981 annual report. Toronto: Author, 1982b.

Canadian Red Cross Society Alberta-Northwest Territories Division. 67th annual report. Calgary: Author, 1978.

Canadian Red Cross Society Blood Transfusion Service. Seven year plan: 1979 - 1985. Toronto: Author, 1978.

Canadian Red Cross Society Blood Transfusion Service. 1981 statistical report. Toronto: Author, 1982.

Carter, N. Trends in voluntary support for non-government social service agencies. Ottawa: Canadian Council on Social Development, 1974.

Chen, M. M., Bush, J. W., & Zaremba, J. Effectiveness measures. In L. J. Shuman et al. (Eds.), Operations research in health care. Baltimore: The Johns Hopkins University Press, 1975.

Cohen, J. Statistical power analysis for the behavioral sciences. New York: Academic Press, 1977.

Cohen, M. A., & Pierskalla, W. P. Management policies for a regional blood bank. Transfusion, 1975, 15 (1), 58 - 67.

Connolly, T., Conlon, E. J., & Deutsch, S. J. Organizational effectiveness: A multiple-constituency approach. Academy of Management Review, 1980, 5(2), 211 - 217.

Cooley, W. W. & Lohnes, P. R. Multivariate data analysis. Toronto: John Wiley and Sons, Inc., 1971.

Cooper, D. Red Cross upset by plasma plants. Edmonton Journal, January 26, 1982, pp. D14.

Cooper, M. B., & Reidenbach, R. E. Strategic marketing planning in nonprofit organizations: A case study of the Red Cross blood program. Hospitals and Health Services Administration, 1981, 26(5), 63 - 74.

Cooper, M. H., & Culyer, A. J. The economics of giving and selling blood. In, The economics of charity. London: The Institute of Economic Affairs, 1973.

Coulter, P. B. Organizational effectiveness in the public sector: The example of municipal fire protection. Administrative Science Quarterly, 1979, 24, 65 - 81.

Craig, P. M. Establishing validity in field evaluation of nurse practitioners. Unpublished Master's thesis, The University of Alberta, 1975.

Crawford, J. & Feather, J. Some elements of questionnaire design and interviewing. Paper presented at the Health Care Evaluation Seminar, Saskatoon, April 1972.

Croft Palmer Inc. Blood transfusion service study of organizational structure relating to administrative functions. Report to the Canadian Red Cross Society, 1979.

Cronbach, L. J. Coefficient alpha and the internal structure of tests. Psychometrika, 1951, 16, 297 - 234.

Cunningham, J. D. A systems - resource approach for evaluating organizational effectiveness. Human Relations, 1978, 31 (7), 631 - 656.

Davey, M. The Canadian Red Cross Blood Transfusion Service. Report on tenure of an NH & MRC Public Health Travelling Fellowship: April to September 1979. Perth, Western Australia: Red Cross Blood Transfusion Service, 1979.

Donabedian, A. Evaluating the quality of medical care. In D. Mainland (Ed.), Health services research. New York: Milbank Memorial Fund, 1967.

Dorolle, P. National Red Cross Societies and health and welfare. Geneva: Henry Dunant Institute, 1975.

Drake, A. W. Getting people to give blood: Ideologies, practices and issues. Technical Report No. 131. Operations Research Center, Massachusetts Institute of Technology, April 1977.

Drucker, P. F. Management: Tasks, responsibilities, practices. New York: Harper and Row Publishers, 1973.

Drucker, P. F. People and performance. New York: Harper and Row Publishers, 1977.

Dubin, R. Organizational effectiveness: Some dilemmas of perspective. Organization and Administrative Sciences, 1976, 7, 7 - 13.

Duckett, S. J. & Kristofferson, S. M. An index of hospital performance. Medical Care, 1978, 16(5), 400 - 407.

Duncan, R. B. Multiple decision-making structures in adapting to environmental uncertainty: The impact on organizational effectiveness. Human Relations, 1973, 26 (3), 273 - 291.

Ebel, R. L. Essentials of educational measurement. Englewood Cliffs, New Jersey: Prentice-Hall Inc., 1972.

Emmert, P. Attitude scales. In P. Emmert and W. Brooks (Eds.), Methods of research in communication. Boston: Houghton Miflin, 1970.

Etzioni, A. Two approaches to organizational analysis: A critique and a suggestion. Administrative Science Quarterly, 1960, 5, 257 - 278.

Evans, R. G. Behavioral cost functions for hospitals. Canadian Journal of Economics, 1971, 4, 198 - 213.

Flood, A. B., Scott, W. R., Ewy, W. & Forrest, W. H. Effectiveness in professional organizations: The impact of surgeons and surgical staff organizations on the quality of care in hospitals. Health Services Research, 1982, 17 (4), 341 - 366.

Friedson, E. Dominant professions, bureaucracy, and client services. In Y. Hasenfeld & R. A. English (Eds.), Human service organizations. Ann Arbor: The University of Michigan Press, 1974.

Friedlander, F. & Pickle, H. Components of effectiveness in small organizations. Administrative Science Quarterly, 1968, 13, 289 - 304.

Georgopoulos, B. S. & Mann, F. C. The community general hospital. New York: Macmillan, 1962.

Georgopoulos, B. S. & Tannenbaum, A. S. A study of organizational effectiveness. American Sociological Review, 1957, 22, 534 - 540.

Glass, G. V., & Stanley, J. C. Statistical methods in education and psychology. Englewood Cliffs, New Jersey: Prentice-Hall Inc., 1970.

Griffith, J. R. Measuring hospital performance. Chicago: Blue Cross Association, 1978.

Gross, E. The definition of organizational goals. British Journal of Sociology, 1969, 20(3), 277 - 294.

Gross, E. Universities as organizations. In Y. Hasenfeld & R. A. English (Eds.), Human service organizations. Ann Arbor: The University of Michigan Press, 1974.

Gross, E., & Grambsch, P. V. University goals and academic power. Washington: American Council on Education, 1968.

Gulliksen, H. Theory of mental tests. New York: John Wiley Sons, 1950.

Hall, R. H. Organizations: Structure and process. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1972.

Hannan, M. T., & Freeman, J. Obstacles to comparative studies. In P. Goodman & J. Pennings (Eds.), New perspectives on organizational effectiveness. San Francisco: Jossey-Bass Inc., 1977.

Harshbarger, D. The human service organization. In H. W. Demont & D. Harshbarger (Eds.), A handbook of human service organizations. New York: Behavioral Publications, 1974.

Hasenfeld, Y., & English, R. A. Human service organizations. Ann Arbor: The University of Michigan Press, 1974.

Hirsch, P. M. Organizational effectiveness and the institutional environment. Administrative Science Quarterly, 1975, 20, 327 - 344.

Hough, D. E. The market for human blood. Toronto: Lexington Books, 1978.

Hull, C. H. & Nie, N. H. SPSS update. Toronto: McGraw-Hill Book Company, 1979.

Inter-Provincial Ad Hoc Committee on Plasma Fractionation. Report to the provincial ministers of health: November 1980. Ottawa: Health and Welfare Canada, 1980.

Inzerilli, G. The organization-client relationship as an aspect of interorganizational analysis. Human Relations, 1979, 32(5), 419 - 437.

Ireland, T., & Koch, J. The political economy of blood. Journal of Behavioral Economics, 1974, 3, 315 - 339.

Jobsen, J. D. & Schneck, R. Constituent views of organizational effectiveness: Evidence of police organizations. Academy of Management Journal, 1982, 25(1), 25 - 46.

Jobsen, J. D. & Schneck, R. Interrelations among effectiveness criteria in police organizations. Edmonton: The University of Alberta, 1980.

Kahn, R. Organizational effectiveness: An overview. In P. Goodman & J. Pennings (Eds.), New perspectives on organizational effectiveness. San Francisco: Jossey-Bass Inc., 1977.

Katz, D., & Kahn, R. L. The social psychology of organizations. New

York: John Wiley and Sons, Inc., 1966.

Kerlinger, F. N. Foundations of behavioral research. Toronto: Holt, Rinehart and Winston, Inc., 1973.

Kobie, F. L. The effectiveness of selected R.C.M.P. units. Unpublished Master's thesis, The University of Alberta, 1978.

Kouzes, J. M., & Mico, P. R. Domain theory: An introduction to organizational behavior in human service organizations. The Journal of Applied Behavorial Science, 1979, 15 (4), 449 - 469.

Kushlick, A. A method of evaluating the effectiveness of a community health service. Social and Economic Administration, 1967, 1(4), 29 - 48.

Levine, S., & White, P. E. Exchange as a conceptual framework for the study of interorganizational relationships. Administrative Science Quarterly, 1961, 5, 583 - 601.

Liebrecht, B. C. Donor and non-donor motivations. Transfusion, 1976, 16 (2), 182 - 189.

Likert, R. The human organization. New York: McGraw-Hill, 1967.

Lewin, L. S., Derzon, R. A., and Margulies, R. Investor-owned and nonprofits differ in economic performance. Hospitals, 1981, 55(13), 52 - 58.

Longest, B. B. Management practices for the health professional. Reston, Virginia: Reston Publishing Company, Inc., 1976.

McKennel, A. Attitude measurement: Use of coefficient alpha with cluster or factor analysis. Sociology, 1970, 4, 227 - 245.

Miller, G. W. A modern blood transfusion service. Modern Medicine of Canada, 1968, 23(7), 60 - 62.

Mohr, L. B. The concept of organizational goal. American Political

Science Review, 1973, 67, 470 - 481.

Molnar, L. B. & Rogers, D. L. Organization effectiveness: An empirical comparison of the goal and system resource approaches. The Sociological Quarterly, 1976, 17, 401 - 413.

Moser, C. A. & Kalton, G. Survey methods in social investigation. London: Heinemann Educational Books, 1979.

Mosier, C. E. A critical examination of concepts of face validity. In W. A. Mehrens & R. L. Ebel (Eds.), Principles of educational and psychological measurement. Chicago: Rand McNally College Publishing Company, 1967.

Mott, P. E. The characteristics of effective organizations. New York: Harper and Row, 1972.

National Advisory Council on Voluntary Action. People in action: Report of the National Advisory Council on Voluntary Action to the Government of Canada. Ottawa: Supply and Services Canada, 1978.

Negandhi, A. R. & Reimann, B. C. Task environment, decentralization and organizational effectiveness. Human Relations, 1973, 26(2), 203 - 214.

Nie, N. H., Hull, C. H., Jenkins, J. G., Steinbrenner, K., & Bent, D. H. SPSS: Statistical package for the social sciences. Toronto: McGraw-Hill Book Company, 1975.

O'Connell, B. Effective leadership in voluntary organizations. New York: Association Press, 1976.

Oppenheim, A. W. Questionnaire design and attitude measurement. New York: Basic Books, 1966.

Oswalt, R. M. A review of blood donor motivation and recruitment. Transfusion, 1977, 17(2), 123 - 13.

Oswalt, R. M. & Hoff, T. E. The motivations of blood donors and non donors: A community survey. Transfusion, 1975, 15(1), 68 - 72.

Parsons, T. Structure and process in modern society. Glencoe, Illinois: The Free Press, 1960.

Pegels, C. C., Seagle, J. P., Cumming, P. C., Kendall, K. E., & Shubsda, J. F. An analysis of selected blood service policy changes. Medical Care, 1977, 15(2), 147 - 157.

Pennings, J. M. Dimensions of organizational influence and their effectiveness correlates. Administrative Science Quarterly, 1976, 21, 688 - 699.

Pennings, J., & Goodman, P. Toward a workable framework. In P. Goodman, & J. Pennings (Eds.), New perspectives on organizational effectiveness. San Francisco: Jossey-Bass Inc., 1977.

Perrault, R. The role of the Canadian Red Cross Society in Canada's health services: Role of the Blood Transfusion Service. Paper presented to the 70th Annual Conference of the Canadian Public Health Association. Winnipeg, 1979.

Perrow, C. A framework for comparative analysis of organizations. American Sociological Review, 1967, 32, 194 - 208.

Perrow, C. Complex organizations. Glenview, Illinois: Scott, Foresman and Company, 1979.

Perrow, C. Organizational analysis: A sociological view. Belmont, California: Wadsworth Publishing Company, Inc., 1970

Perrow, C. The analysis of goals in complex organizations. In Y. Hasenfeld & R. A. English (Eds.), Human service organizations. Ann Arbor: The University of Michigan Press, 1974.

Pierskalla, W. P., Sassetti, R., Cohen, M., Deuermeyer, B., Merritt, R., Consolo, J. A., Garvey, M. J., Goodfriend, M. J., & Sauter, V. Regionalization of blood banking services. Philadelphia: University of Pennsylvania, National Health Care Management Centre, August 1980.

Price, J. L. Handbook of organizational measurement. Lexington, Massachusetts: D. C. Heath & Company, 1972a.

Price, J. L. Organizational effectiveness. The Sociological Quarterly, 1972b, 13, 3 - 16.

Price, J. L. Organizational effectiveness: An inventory of propositions. Homewood, Illinois: Richard D. Irwin, Inc. 1968.

Probe Red Cross efficiency. Toronto Star, July 3, 1982, p. 5

Quinn, R. E., & Cameron, K. Organizational life cycles and shifting criteria of effectiveness: Some preliminary evidence. Manuscript submitted for publication, 1982.

Rice, C. E. A model for the empirical study of a large social organization. In J. Ghorpade (Ed.), Assessment of organizational effectiveness. Pacific Palisades, California: Goodyear Publishing Company, 1971.

Rohrbaugh, J. Operationalizing the competing values approach: Measuring performance in the employment service. Public Productivity Review, 1981, 5(2), 141 - 159.

Rundall, T. G. Commentary on "effectiveness in professional organizations" by Flood, Scott, Ewy and Forrest. Health Services Research, 1983, 18(1), 7 - 12.

Rushing, W. Differences in profit and non-profit organizations: A study of effectiveness and efficiency in general short-stay hospitals. Administrative Science Quarterly, 1974, 19(4), 474 - 484.

Schneider, B., Parkington, J. J. & Buxton, V. M. Employee and customer perceptions of service in banks. Administrative Science Quarterly, 1980, 2(6), 252 - 267.

Scott, W. R. Effectiveness of organizational effectiveness studies. In P. S. Goodman & J. Pennings (Eds.), New perspectives on organizational effectiveness. San Francisco: Jossey-Bass, Inc., 1977.

Seashore, S., & Yuchtman, E. Factorial analysis of organizational performance. Administrative Science Quarterly. 1967, 12, 377 - 395.

Shortell, S. M., & Richardson, W. C. Health program evaluation. St. Louis: The C. V. Mosby Company, 1978.

Smith, C. G., & Brown, M. E. Communication structure and control structure in a voluntary association. Sociometry, 1964, 2, 449 - 468.

Starbuck, W. H. Organizations and their environments. In M. D. Dunnette (Ed.), Handbook of industrial and organizational psychology. Chicago: Rand McNally College Publishing Company, 1976.

Steers, R. M. Organizational effectiveness: A behavioral view. Santa Monica, California: Goodyear Publishing Company, Inc., 1977.

Steers, R. M. Problems in the measurement of organizational effectiveness. Administrative Science Quarterly, 1975, 20. 546 - 557.

Stewart, J. H. Factors accounting for goal effectiveness: A longitudinal study. Organization and Administrative Sciences, 1976, 7, 109 - 119.

Surgenor, D., & Cerveny, J. F. A study of the conversion from paid to altruistic blood donors in New Mexico. Transfusion, 1978, 18(1), 54 - 61.

Tansley, D. Final report: An agenda for Red Cross. Geneva: Henry Dunant Institute, 1975.

Thompson, J. D. Applied health services research. Toronto: D. C. Heath and Company, 1977.

Thompson, J. D. Organizations in action. New York: McGraw-Hill, 1967.

Thompson, J. D., & McEwen, W. J. Organization goals and environment. In A. Etzioni & E. W. Lehman (Eds.), A sociological reader on complex organizations. Toronto: Holt, Rinehart and Winston, 1980.

Thorndike, R. L. & Hagen E. H. Measurement and evaluation in psychology and education. New York: Tom Wiley and Sons, 1961.

Thurstone, L. L. Multiple-factor analysis. Chicago: University of Chicago Press, 1947.

Titmuss, R. M. The gift relationship. London: George Allen & Unwin Ltd., 1970.

Van de Ven, A. H., & Ferry, D. Measuring and assessing organizations. Toronto: John Wiley and Sons, 1980.

Vickers, G. S. Red Cross survey: Preliminary report. Calgary: Southern Alberta Institute of Technology, 1978.

Vinter, R. D. Analysis of treatment organizations. Social Work, 1963, 8, 3 - 15.

Wamsley, G. L., & Zald, M. N. The political economy of public organizations. Toronto: D. C. Heath and Company, 1973.

Warner, W. K. Problems in measuring the goal attainment of voluntary organizations. Journal of Adult Education, 1967, 19(1), 3 - 14.

Warwick, D. P. & Lininger, C. A. The sample survey: Theory and practice. Toronto: McGraw-Hill Book Company, 1975.

Webb, R. J. Organizational effectiveness and the voluntary organization. Academy of Management Journal, 1974, 17(4), 663 - 674.

Weiner, A. A battle of flash and blood. McLean's, November 10, 1980, pp. 56 - 57.

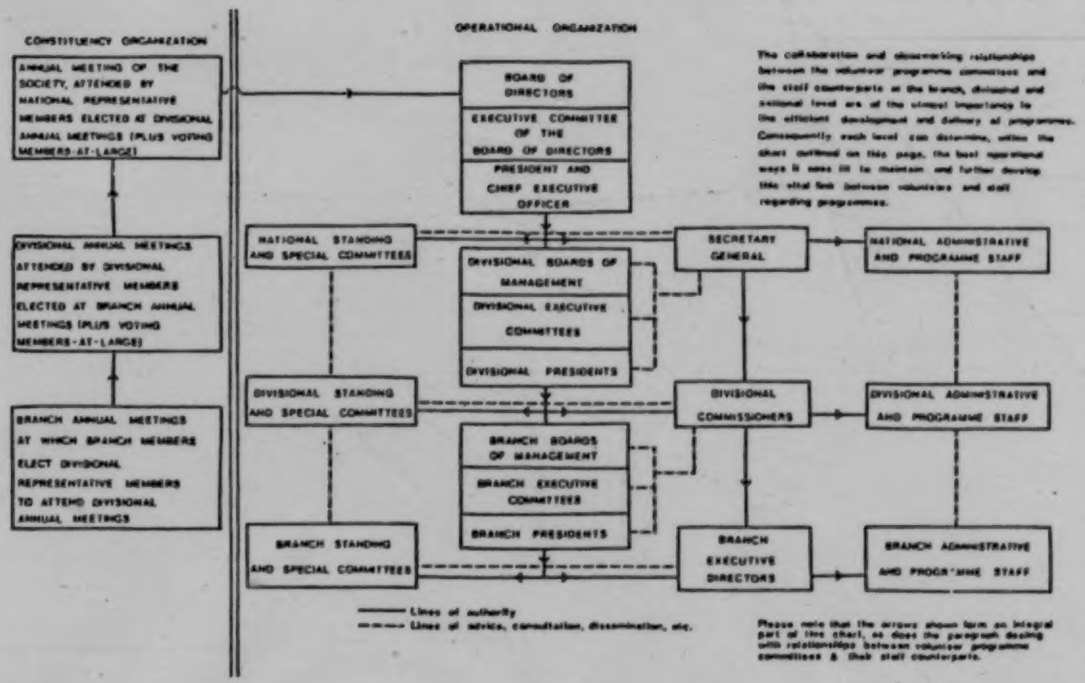
Weiss, D. J. Multivariate procedures. In M. D. Dunnette (Ed.), Handbook of industrial and organizational psychology. Chicago: Rand McNally College Publishing Company, 1976.

Welkowitz, J., Ewen, R. B. & Cohen, J. Introductory statistics for the behavioral sciences. New York: Academic Press, 1976.

Wright, S. R. Quantitative methods and statistics. Beverly Hills: Sage Publications, 1979.

Yuchtman, E., & Seashore, S. A system resource approach to organizational effectiveness. American Sociological Review, 1967, 32(2), 891 - 903.

APPENDIX 1


CONSTITUENCY ORGANIZATION
OPERATIONAL ORGANIZATION
ANNUAL MEETING OF THE SOCIETY, ATTENDED BY NATIONAL REPRESENTATIVE MEMBERS ELECTED AT DIVISIONAL ANNUAL MEETINGS (PLUS VOTING MEMBERS-AT-LARGE)
DIVISIONAL ANNUAL MEETINGS ATTENDED BY DIVISIONAL REPRESENTATIVE MEMBERS ELECTED AT BRANCH ANNUAL MEETINGS (PLUS VOTING MEMBERS-AT-LARGE)
BRANCH ANNUAL MEETINGS AT WHICH BRANCH MEMBERS ELECT DIVISIONAL REPRESENTATIVE MEMBERS TO ATTEND DIVISIONAL ANNUAL MEETINGS
BOARD OF DIRECTORS
EXECUTIVE COMMITTEE OF THE BOARD OF DIRECTORS
PRESIDENT AND CHIEF EXECUTIVE OFFICER
NATIONAL STANDING AND SPECIAL COMMITTEES
DIVISIONAL BOARDS OF MANAGEMENT
DIVISIONAL EXECUTIVE COMMITTEES
DIVISIONAL PRESIDENTS
SECRETARY GENERAL
NATIONAL ADMINISTRATIVE AND PROGRAMME STAFF
DIVISIONAL STANDING AND SPECIAL COMMITTEES
DIVISIONAL COMMISSIONERS
DIVISIONAL ADMINISTRATIVE AND PROGRAMME STAFF
BRANCH BOARDS OF MANAGEMENT
BRANCH EXECUTIVE COMMITTEES
BRANCH PRESIDENTS
BRANCH STANDING AND SPECIAL COMMITTEES
BRANCH EXECUTIVE DIRECTORS
BRANCH ADMINISTRATIVE AND PROGR'MME STAFF
Lines of authority
Lines of advice, consultation, dissemination, etc.

The collaboration and close-working relationships between the volunteer programme committees and the staff counterparts at the branch, divisional and national level are of the utmost importance to the efficient development and delivery of programmes. Consequently each level can determine, within the chart outlined on this page, the best operational ways it sees fit to maintain and further develop this vital link between volunteers and staff regarding programmes.

Please note that the arrows shown form an integral part of this chart, as does the paragraph dealing with relationships between volunteer programme committees & their staff counterparts.

The Canadian Red Cross Society–Organization Chart–National Office (Showing Staff Support)

(The President and Secretary General are Exofficio members of all standing and special committees)

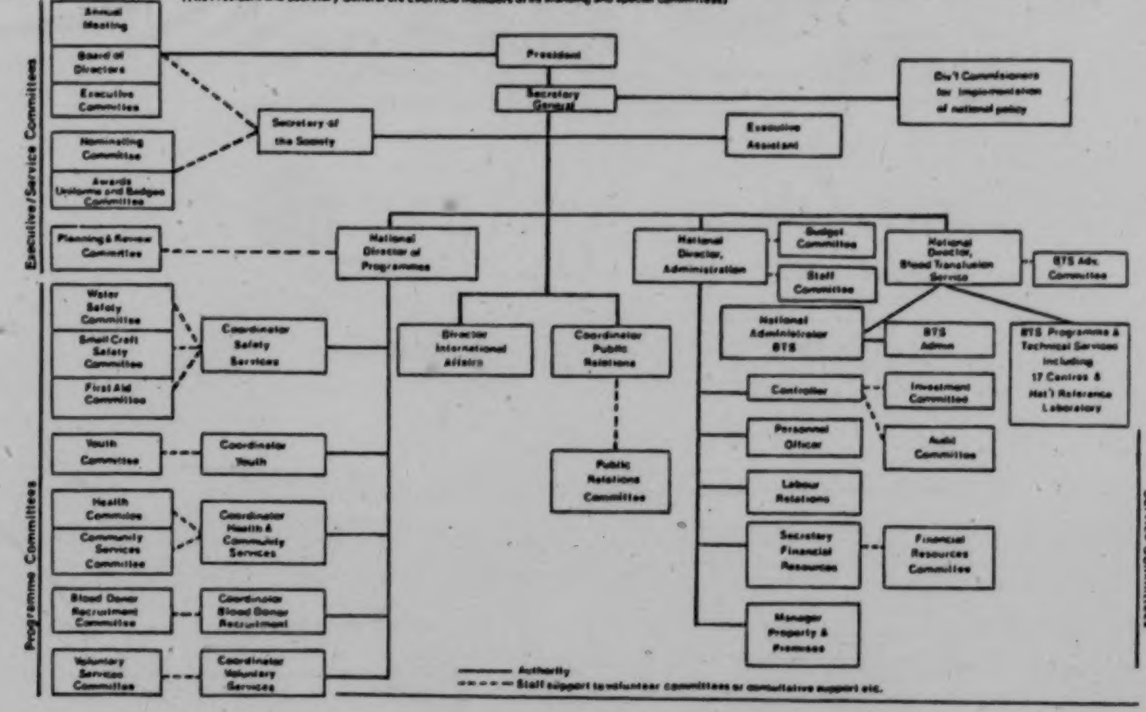

Executive/Service Committees
Annual Meeting
Board of Directors
Executive Committee
Nominating Committee
Awards Uniforms and Badges Committee
Planning & Review Committee
President
Secretary General
Div'l Commissioners for implementation of national policy
Secretary of the Society
Executive Assistant
National Director of Programmes
National Director, Administration
Budget Committee
Staff Committee
National Director, Blood Transfusion Service
BTS Adv. Committee
Programme Committees
Water Safety Committee
Small Craft Safety Committee
First Aid Committee
Coordinator Safety Services
Director International Affairs
Coordinator Public Relations
National Administrator BTS
BTS Admin
BTS Programme & Technical Services including 17 Centres & Nat'l Reference Laboratory
Controller
Investment Committee
Audit Committee
Personnel Officer
Youth Committee
Coordinator Youth
Public Relations Committee
Labour Relations
Health Committee
Community Services Committee
Coordinator Health & Community Services
Secretary Financial Resources
Financial Resources Committee
Blood Donor Recruitment Committee
Coordinator Blood Donor Recruitment
Manager Property & Premises
Voluntary Services Committee
Coordinator Voluntary Services
Service Committees
Authority
Staff support to volunteer committees or consultative support etc.

Figure 2. Canadian Red Cross Society organization charts.

APPENDIX 2

DIVISION OF
HEALTH SERVICES ADMINISTRATION
13-103 CLINICAL SCIENCES BUILDING
TELEPHONE (403) 432-6407 AND 432-6408

FACULTY OF MEDICINE
THE UNIVERSITY OF ALBERTA
EDMONTON, ALBERTA, CANADA
T6G 2G3

May, 1981

SURVEY OF DONOR ATTITUDES TOWARD THE RED CROSS BLOOD TRANSFUSION SERVICE

Dear Blood Donor:

We are conducting a survey of donor attitudes towards the Red Cross Blood Transfusion Service. Information from the survey will be used to evaluate and improve present blood services in the community.

This study has been approved by the Red Cross and you are one of several blood donors randomly selected to receive this survey questionnaire. We need your assistance. We ask therefore, that you complete the attached questionnaire and return it to us promptly. It will take you only a short time to complete.

The value of this study will depend upon the frankness with which you respond to the questions. There are no right or wrong answers. It is your own views that we are interested in.

Your individual answers are completely confidential. When you have completed the questionnaire, place it in the accompanying stamped, self addressed envelope. It is kindly requested that you complete and return it within the next week.

We thank you for your time and cooperation and look forward to receiving your completed questionnaire.

Yours sincerely,

Janet Davidson
Project Director

DONOR QUESTIONNAIRE

INSTRUCTIONS: Please check (√) the appropriate answer or insert the number in the space provided. PLEASE RESPOND TO EVERY ITEM.

1. On the basis of your experience, how would you rate the overall performance of the Red Cross Blood Transfusion Service in meeting the needs of the community for blood? (Check one)

—— very good
—— good
—— fair
—— rather poor
—— very poor

2. On the average, how frequently do you donate blood? (Check one)

—— 4 times/year
—— 3 times/year
—— 2 times/year
—— once/year
—— less than once/year

3. How long have you been donating blood on a regular basis? (Check one)

—— less than 1 year
—— 1-5 years
—— 6-10 years
—— 11-20 years
—— more than 20 years

4. Do you expect to give blood in the future on a regular basis? (Check one)

—— yes
—— no
—— don't know

5. How willing are you to actively encourage others to donate blood? (Check one)

—— very willing
—— moderately willing
—— indifferent
—— moderately unwilling
—— very unwilling

6. To what extent do you feel that your blood donations are appreciated by Red Cross? (Check one)

—— greatly appreciated
—— moderately appreciated
—— indifferent
—— appreciated very little
—— not appreciated at all

7. How satisfied are you with the recognition given by Red Cross for your blood donations? (Check one)

—— very satisfied
—— satisfied
—— recognition doesn't matter
—— dissatisfied
—— very dissatisfied

8. How much do you value the awards/certificates/pins given to you by Red Cross in recognition of your blood donations? (Check one)

—— of great value
—— of some value
—— of little value
—— of no value
—— have never received recognition

9. The following is a list of six ways people are frequently informed about blood donor clinics. Please rate them as they apply to you.

The box on the right contains five possible answers numbered 1 to 5. For each of the items to the left of the box, decide which of the five answers best represent your situation. Insert the number of that answer in the blank space beside each item.

Fill in every blank with the appropriate number.

—— local television
—— local newspaper
—— radio
—— notified personally by Red Cross
—— notice posted in shopping centre, school, office, etc.,
—— neighbours, friends, family members

1-very frequently
2-usually
3-sometimes
4-hardly ever
5-never

10. Do you think the Red Cross does enough advertising to get blood donors? (Check one)

—— yes
—— no
—— don't know

11. How satisfied are you with the location of blood donor clinics? (Check one)

—— very satisfied
—— satisfied
—— neither satisfied nor dissatisfied
—— dissatisfied
—— very dissatisfied

12. How satisfied are you with the time of day when blood donor clinics are scheduled? (Check one)

—— very satisfied
—— satisfied
—— neither satisfied nor dissatisfied
—— dissatisfied
—— very dissatisfied

13. How satisfied are you with the frequency of blood donor clinics in your area? (Check one)

—— very satisfied
—— satisfied
—— neither satisfied nor dissatisfied
—— dissatisfied
—— very dissatisfied

14. To what extent do you feel that you can influence the activites and decisions of the Red Cross Blood Transfusion Service? (Check one)

—— great extent
—— considerable extent
—— moderate extent
—— some extent
—— can't influence at all

15. How often do you feel that Red Cross Blood Transfusion Service personnel are:
(Fill in every blank with the appropriate number)

—— courteous
—— helpful
—— competent
—— dependable
—— efficient

1-always
2-most of the time
3-sometimes
4-hardly ever
5-never

16. How would you rate your preferences for giving blood to each of the following agencies?
(Fill in every blank with the appropriate number)

—— Red Cross
—— government agency
—— profit-making organization that pays you for your blood
—— another voluntary, non-profit organization other than Red Cross
—— non-profit organization that pays you for your blood

1-strongly prefer
2-moderately prefer
3-no preference
4-moderately oppose
5-strongly oppose

17. How willing would you be to donate blood to the Red Cross if there were other organizations in Alberta that were paying their donors? (Check one)

—— very willing
—— moderately willing
—— no preference
—— moderately unwilling
—— very unwilling

18. The following is a list of four reasons why people give blood. Please rate them as they apply to you. (Fill in every blank with the appropriate number)

—— giving blood is a good thing to do
—— I have a rare blood type
—— Red Cross asks me to give
—— a family member once received blood and I'm doing my bit to repay

1-very important to me
2-important to me
3-neither important nor unimportant to me
4-unimportant to me
5-very unimportant to me

19. Here are another four reasons why people give blood. Please rate them as they apply to you
(Fill in every blank with the appropriate number)

—— my employer, family, friends encourage me to give blood
—— I'm healthy and want to help those less fortunate
—— I might need blood myself one day
—— I'm always hearing about the need for more blood

1-very important to me
2-important to me
3-neither important nor unimportant to me
4-unimportant to me
5-very unimportant to me

These final questions will help us conclude your views with views of other people who are similar to you.

20. What is your blood type (Check one)

—— A positive
—— B positive
—— O positive
—— AB positive
—— other

—— A negative
—— B negative
—— O negative
—— AB negative
—— don't know

21. What is your sex? (Check one)

—— male

—— female

22. What is your age? (Check one)

—— 18-29 years

—— 30-45 years

—— 46-60 years

—— over 60 years

23. What is the highest level of education you have completed? (Check one)

—— less than grade 10

—— some high school

—— high school graduate

—— some college or university

—— college or university graduate

24. What is the population of the community in which you live? (Check one)

—— less than 5,000

—— 5,000 - 14,999

—— 15,000 - 29,999

—— 30,000 - 100,000

—— more than 100,000

Thank You For Your Cooperation

APPENDIX 3

DIVISION OF
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13-103 CLINICAL SCIENCES BUILDING
TELEPHONE (403) 432-6407 AND 432-6408

FACULTY OF MEDICINE
THE UNIVERSITY OF ALBERTA
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T6G 2G3

May, 1981

SURVEY OF ATTITUDES ABOUT GIVING BLOOD

Dear Sir or Madam:

We are conducting a survey of attitudes towards donating blood. Information from the study will be used to evaluate and improve present blood services in the community.

You are one of several individuals randomly selected to receive this survey questionnaire. We need your assistance. We ask therefore, that you complete the attached questionnaire and return it to us promptly. It will take you only a short time to complete.

The value of this study will depend upon the frankness with which you respond to the questions. There are no right or wrong answers. It is your own views that we are interested in.

Your individual answers are completely confidential. When you have completed the questionnaire, place it in the accompanying stamped, self addressed envelope. It is kindly requested that you complete and return it within the next week.

We thank you for your time and cooperation and look forward to receiving your completed questionnaire.

Yours sincerely,

Janet Davidson

Janet Davidson
Project Director

QUESTIONNAIRE

INSTRUCTIONS: Please check (✓) the appropriate answer or insert the number in the space provided. PLEASE RESPOND TO EVERY ITEM.

1. Have you ever donated blood to the Red Cross? (Check one)

___ yes ___ no

2. Have you ever thought about giving blood? (Check one)

___ yes ___ no

3. How often do you see television advertisements about donating blood? (Check one)

___ very frequently
___ usually
___ sometimes
___ hardly ever
___ never

4. How often do you hear radio announcements about Red Cross blood donor clinics? (Check one)

___ very frequently
___ usually
___ sometimes
___ hardly ever
___ never

5. How often do your friends or colleagues talk about giving blood? (Check one)

___ very frequently
___ usually
___ sometimes
___ hardly every
___ never

6. How often do you see notices about Red Cross blood donor clinics posted in shopping centres, schools, offices, etc.? (Check one)

___ very frequently
___ usually
___ sometimes
___ hardly ever
___ never

7. The following is a list of common reasons why people do not give blood. Please rate them as they apply to you.

The box on the right contains 5 possible answers numbered 1 to 5. For each of the items to the left of the box, decide which of the 5 answers best represents your situation. Insert the number of that answer in the blank space beside each item. Fill in every blank with the appropriate number.

___ no one has ever asked me

___ the location of blood donor clinics is inconvenient

___ it takes too much time

___ my religious beliefs forbid it

___ I don't like needles

___ the time of day when clinics are scheduled is inconvenient

___ I have a medical condition that prevents me from giving

___ I never hear about blood donor clinics

1 - very important to me
2 - important to me
3 - neither important nor unimportant to me
4 - unimportant to me
5 - very unimportant to me

8. In some countries, donors are paid for their blood. Would you donate blood if you were paid for it? (Check one)

___ yes

___ no

These final questions will help us include your views with views of other people who are similar to you.

9. What is your sex? (Check one)

___ male

___ female

10. What is your age? (Check one)

___ 18 - 29 years

___ 30 - 45 years

___ 46 - 60 years

___ over 60 years

11. What is the highest level of education you have completed? (Check one)

___ less than grade 10

___ some high school

___ high school graduate

___ some college or university

___ college or university graduate

12. What is the population of the community in which you live? (Check one)

___ less than 5,000

___ 5,000 - 14,999

___ 15,000 - 29,999

___ 30,000 - 100,000

___ more than 100,000

THANK YOU FOR YOUR COOPERATION

APPENDIX 4

**DIVISION OF
HEALTH SERVICES ADMINISTRATION**
13-103 CLINICAL SCIENCES BUILDING
TELEPHONE (403) 432-6407 AND 432-6408

**FACULTY OF MEDICINE
THE UNIVERSITY OF ALBERTA**
EDMONTON, ALBERTA, CANADA
T6G 2G3

May, 1981

SURVEY OF HOSPITAL BLOOD BANKS

Dear Blood Bank Director:

This questionnaire is part of a study attempting to investigate the effectiveness of the Edmonton Centre of the Canadian Red Cross Blood Transfusion Service. This study has been approved by the Red Cross and Alberta Hospitals and Medical Care. Information from the study will be used to evaluate blood services to the hospitals.

All hospitals served by the Edmonton Centre have been included in the study and as a spokesman for the staff members in your hospital who are involved with and knowledgeable about the Red Cross Blood Transfusion Service, we are asking you to complete the attached survey questionnaire. It should take only a short time to complete.

The success of this research will depend on the information you give us. Please answer each item and return the questionnaire to us promptly. There are no right or wrong answers. We are interested in having your views.

Your answers are completely confidential and no individual hospital will be identified. When you have completed the questionnaire, place it in the accompanying stamped, self addressed envelope. It is requested that you kindly complete and return it within the next week.

We thank you for your time and cooperation and look forward to receiving your completed questionnaire.

Yours sincerely,

Janet Davidson

Janet Davidson
Project Director

BLOOD BANK QUESTIONNAIRE

INSTRUCTIONS: Please check (✓) the appropriate answer or insert the number in the space provided. PLEASE RESPOND TO EVERY ITEM.

1. How satisfied are you with the quality of the blood and blood products you receive? (Check one)

___ very satisfied

___ moderately satisfied

___ neither satisfied nor dissatisfied

___ moderately dissatisfied

___ very dissatisfied

2. How satisfied are you with the quantity of the blood and blood products you receive? (Check one)

___ very satisfied

___ moderately satisfied

___ neither satisfied nor dissatisfied

___ moderately dissatisfied

___ very dissatisfied

3. How well does the Red Cross Blood Transfusion Service perform in meeting unexpected or emergency demands for blood and/or blood products? (Check one)

___ very well

___ moderately well

___ fairly well

___ not too well

___ not well at all

___ have never made an emergency request

4. How frequently have you had problems related to the transportation of blood and blood products? (Check one)

___ always

___ most of the time

___ sometimes

___ hardly ever

___ never

5. How would you rate the shelf life of the products you receive from the Red Cross Blood Transfusion Service? (Check one)

___ greater than 80% shelf life remaining

___ 50% - 80% remaining

___ less than 50% remaining

6. Canadian hospitals would be best served if:

The box on the right contains five possible answers numbered 1 to 5. For each of the statements to the left of the box, decide which of the five answers best represents your view. Insert the number of that answer in the blank space beside each statement. Fill in every blank with the appropriate number.

___ a government agency handled the collection and distribution of blood and blood products

___ the present system of blood collection and distribution as operated through Red Cross were maintained

___ a commercial (profit-making) system of blood collection and distribution were established

___ hospitals collected and processed their own blood requirements

___ a variety of commercial and non-profit systems were established with hospitals being free to negotiate among them

1 - strongly agree
2 - moderately agree
3 - neither agree nor disagree
4 - moderately disagree
5 - strongly disagree

7. If, in your opinion, the most appropriate answer was not included in the list of options presented in question 6, please describe it in the space below.

8. If you had your choice, would you prefer to change from your present supplier (i.e. Red Cross) to one of the options listed in Questions 6 or 7? **(Check one)**

___ yes

___ no

___ don't know

9. On the basis of your experience, how would you rate the overall performance of the Red Cross Blood Transfusion Service in meeting the blood requirements of hospitals? **(Check one)**

___ very good

___ good

___ fair

___ rather poor

___ very poor

10. How would you rate the following regionalization options as to their ability to provide better service to hospitals than that presently offered by the Red Cross Blood Transfusion Service? (Fill in every blank with the appropriate number)

___ regional blood banks under the jurisdiction of Red Cross

___ regional blood banks with storage in large general hospitals

___ regional crossmatching facilities

___ local storage and crossmatching

1 - very favorable
2 - moderately favorable
3 - no better or worse than present system
4 - moderately unfavorable
5 - very unfavorable

11. If, in your opinion, the most appropriate answer was not included in the list of options presented in question 10, please describe it in the space below.

12. How frequently do you use each of the following methods to communicate with the Red Cross Blood Transfusion Service? (Fill in every blank with the appropriate number)

___ telephone

___ AGT - TWX

___ written correspondence

___ face to face

1 - always
2 - most of the time
3 - sometimes
4 - hardly ever
5 - never

13. In general, how often do you communicate with the Red Cross Blood Transfusion Service? (Check one)

___ twice daily or more

___ daily

___ approximately twice/week

___ approximately once/week

___ less than once/week

14. Who initiates the communication between the Red Cross Blood Transfusion Service and yourself? (Fill in every blank with the appropriate number)

___ myself

___ Red Cross

1 - always
2 - most of the time
3 - sometimes
4 - hardly ever
5 - never

15. How often do you discuss matters of blood policy with appropriate Red Cross Blood Transfusion Service officials? (Check one)

___ very frequently

___ moderately frequently

___ sometimes

___ hardly ever

___ never

16. Do you think it is necessary to discuss issues relating to blood policy with appropriate Red Cross Blood Transfusion Service officials, more often than you do now? (Check one)

___ yes

___ no

___ don't know

17. In your opinion, how effective is the Red Cross Blood Transfusion Service in dealing with any complaints or concerns you may have with respect to matters of products and supply? (Check one)

___ very effective

___ moderately effective

___ neither effective nor ineffective

___ moderately ineffective

___ very ineffective

18. In your opinion, how effective is the Red Cross Blood Transfusion Service in dealing with any complaints or concerns you may have with respect to matters of administration or policy? (Check one)

___ very effective

___ moderately effective

___ neither effective nor ineffective

___ moderately ineffective

___ very ineffective

19. How often do you feel that the Red Cross Blood Transfusion Service personnel are: (Fill in every blank with the appropriate number)

___ courteous

___ helpful

___ competent

___ dependable

___ efficient

1 - always
2 - most of the time
3 - sometimes
4 - hardly ever
5 - never

20. Does your hospital do any of its own crossmatching?

___ yes - How often? (Check one)

- ___ always
- ___ most of the time
- ___ sometimes
- ___ hardly ever
- ___ never

___ no - Would you like to? (Check one)

- ___ yes
- ___ no

21. How often have you bled donors locally within the past two years? (Check one)

___ always

___ most of the time

___ sometimes

___ hardly ever

___ never

22. In your opinion, do you think donors should be paid for their blood? (Check one)

___ yes

___ no

___ only if blood available no other way

___ no opinion

23. In your opinion, do you think that a commercial system of blood collection involving payment of donors results in a higher incidence of serum hepatitis? (Check one)

___ yes

___ no

___ don't know

24. How frequently do you return indated excess stock to the Red Cross Blood Transfusion Service? (Check one)

___ always

___ most of the time

___ sometimes

___ hardly ever

___ never

25. Do you think that suitably qualified individuals in the Red Cross Blood Transfusion Service should conduct research? **(Check one)**

___ yes

___ no

___ no opinion

26. In general, how would you rate the availability of each of the following products when you have requested them? (Fill in every blank with the **appropriate number that best represents** your situation)

___ whole blood

___ concentrated red cells

___ stored plasma

___ fresh frozen plasma

___ platelets

___ platelet concentrate

___ cryoprecipitate

___ serum albumin 5%

___ serum albumin 25%

___ Factor VIII (AHF) concentrate

___ Factor IX

___ Immune serum globulin

___ Rh immune globulin

___ Hepatitis immune globulin

___ Vaccina immune globulin

1 - always available
2 - usually available
3 - sometimes available
4 - hardly ever available
5 - never available
6 - never requested

27. To what extent do you feel that you can influence the activities and decisions of the Red Cross Blood Transfusion Service on a local basis? **(Check one)**

___ great extent

___ considerable extent

___ moderate extent

___ some extent

___ can't influence at all

28. To what extent do you feel that you can influence the activities and decisions of the Red Cross Blood Transfusion Service on a national basis? **(Check one)**

___ great extent

___ considerable extent

___ moderate extent

___ some extent

___ can't influence at all

29. In general, how favorable do you feel toward the Red Cross Blood Transfusion Service with respect to products and supply? (Check one)

___ very favorable

___ moderately favorable

___ neither favorable nor unfavorable

___ moderately unfavorable

___ very unfavorable

30. In general, how favorable do you feel toward the Red Cross Blood Transfusion Service with respect to service and general administration of the system? (Check one)

___ very favorable

___ moderately favorable

___ neither favorable nor unfavorable

___ moderately unfavorable

___ very favorable

Could you please answer a few final questions about your hospital and your job.

31. How would you classify your present position? (Check one)

___ administrator

___ physician

___ laboratory technologist

___ physician/administrator

___ other (specify): ______________________________

32. How long have you held your present position? (Check one)

___ less than 1 year

___ 1 - 5 years

___ 6 - 10 years

___ more than 10 years

33. Is there a separate blood bank in your hospital? (Check one)

___ yes ___ no

34. Do you provide crossmatching and/or blood storage facilities for other hospitals? (Check one)

___ yes ___ no

35. How would you classify the type of supervision given to the blood bank in your hospital? (Check one)

___ pathologist on site

___ physician (non pathologist)

___ consultant pathologist

___ other (specify): ______________________________

36. How many patients were transfused in your hospital during 1980?

____

37. How many units were transfused in your hospital during 1980 for each of the following:

__________	whole blood	__________	concentrated red cells
__________	stored plasma	__________	fresh frozen plasma
__________	cryoprecipitate	__________	platelet concentrate

38. What is the current number of rated beds in your hospital?

____

THANK YOU FOR YOUR COOPERATION

APPENDIX 5

DIVISION OF
HEALTH SERVICES ADMINISTRATION
13-103 CLINICAL SCIENCES BUILDING
TELEPHONE (403) 432-6407 AND 432-6408

FACULTY OF MEDICINE
THE UNIVERSITY OF ALBERTA
EDMONTON, ALBERTA, CANADA
T6G 2G3

September, 1981

SURVEY OF EDMONTON CENTRE BTS PERSONNEL

Dear BTS Employee:

This questionnaire is part of a study attempting to investigate the effectiveness of the Edmonton Centre Blood Transfusion Service. Information from the study will be used to evaluate the performance of the Edmonton Centre.

All Edmonton Centre BTS personnel have been included in the study. We need your assistance. We ask therefore that you complete the attached survey questionnaire and return it to us promptly. It should take you only a short time to complete.

The value of this study will depend upon the frankness with which you respond to the questions. There are no right or wrong answers. It is your own views that we are interested in.

Your individual answers are completely confidential. When you have completed the questionnaire, place it in the accompanying stamped, self-addressed envelope. It is requested that you kindly complete and return it within the next week.

We thank you for your time and cooperation and look forward to receiving your completed questionnaire.

Yours sincerely,

Janet Davidson
Project Director

BTS STAFF QUESTIONNAIRE

INSTRUCTIONS: Please check(✓) the appropriate answer or insert the number in the space provided. PLEASE RESPOND TO EVERY ITEM.

1. In general, how would you rate the relations between the Edmonton Centre BTS and the hospitals? (Check one)

___very good
___good
___fair
___rather poor
___very poor

2. How would you rate the overall performance of the Edmonton Centre BTS in meeting the blood and blood product requirements of the hospitals? (Check one)

___very good
___good
___fair
___rather poor
___very poor

3. How would you rate the performance of the Edmonton Centre BTS in meeting unexpected or emergency demands for blood and blood products? (Check one)

___very good
___good
___fair
___rather poor
___very poor

4. In terms of their relationship with hospitals, how often do you feel that Edmonton Centre BTS personnel are:

The box on the right contains five possible answers numbered 1 to 5. For each of the statements to the left of the box, decide which of the five answers best represents your view. Insert the number of that answer in the blank space beside each statement. Fill in every blank with the appropriate number.

___courteous
___helpful
___competent
___dependable
___efficient

1-always
2-most of the time
3-sometimes
4-hardly ever
5-never

5. How responsive do you think the Edmonton Centre BTS is in dealing with any concerns that hospitals might have? (Check one)

___very responsive
___moderately responsive
___neither responsive nor unresponsive
___moderately unresponsive
___very unresponsive

6. How would you rate the quality of blood and blood products provided to hospitals by the Edmonton Centre BTS? (Check one)

___very good
___good
___fair
___rather poor
___very poor

7. In your opinion, how effective is the Edmonton Centre BTS in providing blood and blood products in the quantities requested by the hospitals? (Check one)

___very effective
___moderately effective
___neither effective nor ineffective
___moderately ineffective
___very ineffective

8. To what extent do you feel that hospital blood banks can influence the activities and decisions of the Edmonton Centre BTS? (Check one)

___great extent
___considerable extent
___moderate extent
___some extent
___can't influence at all

9. To what extent do you feel that hospital blood banks should be involved in the activities and decisions of the Edmonton Centre BTS? (Check one)

___great extent
___considerable extent
___moderate extent
___some extent
___no involvement

10. In general, how would you rate the relations between the Edmonton Centre BTS and the blood donors? (Check one)

___very good

___good

___fair

___rather poor

___very poor

11. In terms of their relationship with blood donors, how often do you feel that Edmonton Centre BTS personnel are: (Fill in every blank with the appropriate number)

___courteous

___helpful

___competent

___dependable

___efficient

1-always
2-most of the time
3-sometimes
4-hardly ever
5-never

12. How responsive do you think the Edmonton Centre BTS is in dealing with any concerns that blood donors might have? (Check one)

___very responsive

___moderately responsive

___neither responsive nor unresponsive

___moderately unresponsive

___very unresponsive

13. Do you think blood donors should receive some form of payment for their blood? (Check one)

___yes

___no

___only if blood available no other way

___no opinion

14. Do you think that the establishment of a commercial system of blood collection and distribution would mean the end of the voluntary system as presently operated by the Red Cross BTS? (Check one)

___yes

___no

___don't know

15. Do you think the Red Cross should do more advertising to get blood donors? (Check one)

___yes

___no

___don't know

16. How effective do you think the Red Cross Society's past strategies have been in attracting new blood donors? (Check one)

___very effective

___moderately effective

___neither effective nor ineffective

___moderately ineffective

___very ineffective

17. How would you rate the effectiveness of each of the following types of advertising/promotion in encouraging people to give blood? (Fill in every blank with the appropriate number)

___television

___radio

___newspapers/magazines

___notices posted in shopping centres, offices, schools, etc.

___personal notification by Red Cross

1-very effective
2-moderately effective
3-neither effective nor ineffective
4-moderately ineffective
5-very ineffective

18. Do you think the Red Cross Society spends enough time, energy, and resources in trying to attract new blood donors? (Check one)

___yes

___no

___don't know

19. To what extent do you feel that blood donors can influence the activities and decisions of the Edmonton Centre BTS? (Check one)

___great extent

___considerable extent

___moderate extent

___some extent

___can't influence at all

20. To what extent do you think that blood donors should be involved in the activities and decisions of the Edmonton Centre BTS? (Check one)

___great extent

___considerable extent

___moderate extent

___some extent

___no involvement

21. In general, how would you rate the relations between the Edmonton Centre BTS and the Government of Alberta? (Check one)

___very good

___good

___fair

___rather poor

___very poor

22. How responsive do you think the Edmonton Centre BTS is in dealing with any relevant concerns the Government of Alberta might have? (Check one)

___very responsive

___moderately responsive

___neither responsive nor unresponsive

___moderately unresponsive

___very unresponsive

23. Do you think that a government agency could operate a blood transfusion service more effectively than the Red Cross BTS? (Check one)

___yes

___no

___no difference

___don't know

24. To what extent do you feel that the Government of Alberta can influence the activities and decisions of the Edmonton Centre BTS? (Check one)

___great extent

___considerable extent

___moderate extent

___some extent

___can't influence at all

25. To what extent do you feel that the Government of Alberta should be involved in the activities and decisions of the Edmonton Centre BTS? (Check one)

___great extent
___considerable extent
___moderate extent
___some extent
___no involvement

26. Do you think the Government of Alberta will become more directly involved in blood banking in the future? (Check one)

___yes
___no
___don't know

27. How clearly have the overall goals of the Canadian Red Cross been identified to you? (Check one)

___very clearly
___moderately clearly
___somewhat clearly
___not too clearly
___not at all

28. How clearly have the overall goals of the National BTS been identified to you? (Check one)

___very clearly
___moderately clearly
___somewhat clearly
___not too clearly
___not at all

29. How clearly have the goals of the Edmonton Centre BTS been identified to you? (Check one)

___very clearly
___moderately clearly
___somewhat clearly
___not too clearly
___not at all

30. How well does the Edmonton Centre BTS do at acheiving its goals? (Check one)

___extremely well

___very well

___satisfactory

___not too well

___not well at all

31. To what extent do you feel that the goals of the Edmonton Centre BTS conflict with the goals of the National BTS? (Check one)

___great extent

___considerable extent

___moderate extent

___some extent

___no conflict

32. To what extent do you feel that the goals of the Edmonton Centre BTS conflict with the goals of the rest of the Red Cross excluding National BTS? (Check one)

___great extent

___considerable extent

___moderate extent

___some extent

___no conflict

33. To what extent do you feel that the National BTS assists the Edmonton Centre BTS in carrying out its responsibilities? (Check one)

___great extent

___considerable extent

___moderate extent

___some extent

___of no assistance

34. To what extent do you feel that policies of the National BTS seriously constrain the activities of the Edmonton Centre BTS? (Check one)

___great extent

___considerable extent

___moderate extent

___some extent

___no constraint

35. To what extent do you feel that the National BTS can influence the activities and decisions of the Edmonton Centre BTS? (Check one)

___great extent
___considerable extent
___moderate extent
___some extent
___can't influence at all

36. To what extent do you feel that the National BTS should be involved in the activities and decisions of the Edmonton Centre BTS? (Check one)

___great extent
___considerable extent
___moderate extent
___some extent
___no involvement

37. In your opinion, should the National BTS permit the Edmonton Centre BTS to operate more independently than it does now? (Check one)

___yes
___no
___don't know

38. To what extent do you feel that the Edmonton Centre BTS can influence the activities and decisions of the National BTS? (Check one)

___great extent
___considerable extent
___moderate extent
___some extent
___can't influence at all

39. To what extent do you feel that the Edmonton Centre BTS should be involved in the activities and decisions of the National BTS? (Check one)

___great extent
___considerable extent
___moderate extent
___some extent
___no involvement

40. To what extent do you feel that the Alberta/NWT Division of the Red Cross can influence the activities and decisions of the Edmonton Centre BTS? (Check one)

___great extent

___considerable extent

___moderate extent

___some extent

___can't influence at all

41. To what extent do you feel that the Alberta/NWT Division of the Red Cross should be involved in the activities and decisions of the Edmonton Centre BTS? (Check one)

___great extent

___considerable extent

___moderate extent

___some extent

___no involvement

42. To what extent do you feel as an individual that you can influence the activities and decisions of the Edmonton Centre BTS? (Check one)

___great extent

___considerable extent

___moderate extent

___some extent

___can't influence at all

43. Overall, how would you rate the relations between the Edmonton Centre BTS and the parts of the Canadian Red Cross listed below? (Fill in every blank with the appropriate number)

___National BTS

___Calgary Centre BTS

___Alberta/NWT Division Red Cross

___Edmonton Branch BDR

1-very good
2-good
3-fair
4-rather poor
5-very poor

44. How would you rate the relations between the Edmonton Centre BTS and the employee unions?

___very good

___good

___fair

___rather poor

___very poor

45. Overall, how would you rate the performance of the Edmonton Centre BTS with respect to the collection, processing, and distribution of blood and blood products? (Check one)

___very good
___good
___fair
___rather poor
___very poor

46. Overall, how would you rate the performance of the Edmonton Centre BTS with respect to the general administration of the system? (Check one)

___very good
___good
___fair
___rather poor
___very poor

47. How satisfied are you with the present administration of the BTS on a national basis? (Check one)

___very satisfied
___moderately satisfied
___neither satisfied nor dissatisfied
___moderately dissatisfied
___very dissatisfied

48. How satisfied are you with the present administration of the BTS on a local basis? (Check one)

___very satisfied
___moderately satisfied
___neither satisfied nor dissatisfied
___moderately dissatisfied
___very dissatisfied

49. In your opinion, would an amalgamation of the BTS and BDR under one administration increase the effectiveness of the total blood program? (Check one)

___yes
___no
___no difference
___don't know

These final questions will help us include your views with views of other staff members who are similar to you.

50. What is your sex? (Check one)

___male ___female

51. What is your age? (Check one)

___18-29 years ___46-60 years
___30-45 years ___over 60 years

52. What is the highest level of education you have completed? (Check one)

___less than grade 10 ___some college or university
___some high school ___college or university graduate
___high school graduate

53. How long have you been employed at the Edmonton Centre BTS? (Check one)

___less than 1 year ___6-10 years
___1-5 years ___more than 10 years

54. Were you employed by the Red Cross in another capacity or area before commencing employment at the Edmonton Centre? (Check one)

___yes ___no

55. Are you presently, or have you ever been a volunteer in any of the other Red Cross programs or services? (Check one)

___yes ___no

56. How would you classify your present position? (Check one)

___administration ___nursing
___laboratory ___transport
___other (specify):____________________________

THANK YOU FOR YOUR COOPERATION